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# TEXAS AGRICULTURAL EXPERIMENT STATION

A. B. CONNER, DIRECTOR  
COLLEGE STATION, BRAZOS COUNTY, TEXAS

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## DIVISION OF AGRONOMY

### Varieties of Cotton for the Blackland Region of Central Texas



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Varieties of cotton having high percentages of lint with a staple of 7/8 to 1 inch made the highest yields of lint and were the more profitable varieties tested at Substation No. 5, Temple, in the Blackland region of Central Texas out of a large number of varieties and strains of cotton tested during the 16 years, 1912 to 1927. The results obtained from 1912 to 1914, inclusive, were published in Bulletin No. 215. The results secured from 1915 to 1927, inclusive, together with those of previous years, are brought together and published in this Bulletin, and are probably applicable to the greater part of the Blackland Prairie Regions of the entire State.

Kasch produced slightly higher yields than the other varieties tested, although the yields of Qualla, New Boykin, and Harper were not significantly lower than Kasch. These four varieties have somewhat similar characteristics representative of the Mebane Triumph type of cotton. They produce lint 7/8 to 1 inch in length, have a medium- to large-sized boll, and are high in percentage of lint, ranging from 37 to 40 per cent, and are relatively early in maturing.

The money value per acre of a number of the varieties was computed on the basis of yield of lint, length of lint, and the prices paid on the central market. On this basis, Kasch had the highest acre value, \$45.36, as compared with \$43.88 for Qualla, \$42.32 for New Boykin, and \$42.23 for Harper. The money value per acre of Acala, Anton, Mebane, Sunshine, Truitt, Lankart, and Lone Star was for each in the order named slightly lower than Harper, ranging from \$41.60 for Acala to \$37.92 for Lone Star.

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## VARIETIES OF COTTON FOR THE BLACKLAND REGION OF CENTRAL TEXAS

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Varieties of cotton have been tested at Substation No. 5, Texas Agricultural Experiment Station, Temple, Texas, since 1912, the first crop year after the station was established. The results of the variety tests for three years, 1912, 1913, and 1914, were published in Bulletin No. 215. These results, together with those secured since 1914, are brought together and are being published in this Bulletin, which brings the results of the variety tests of cotton up to 1927, inclusive.

Substation No. 5, Texas Agricultural Experiment Station, is located at Temple, Bell County, Texas,\* near the center from north to south of the Blackland region of the State. The Substation is approximately 125 miles south of Dallas and 140 miles northeast of San Antonio, and is accessible to the Missouri, Kansas and Texas and the Santa Fe railroads. The elevation is 740 feet above sea level. The Blackland region extends from a point west of San Antonio in a narrow belt, the width of which increases northward, through Austin, Waco, Dallas and Sherman, to as far east as Clarksville, in Red River County, Texas. In general, the topography of the region is undulating, gently rolling, or even hilly in places. The surface drainage is good to excessive and, in some places, serious washing of the soil has resulted.

The Houston series of soils, principally the Houston black clay and Houston clay, are the main soil types of the Blackland region. The Houston soils are black in color and high in content of lime. The parent material from which these soils were formed consisted of white chalky limestone or yellow marl. When these soils are wet they are very sticky and plastic, but in the dry condition they granulate and break down to good tilth. Even when the soil is plowed slightly wet, the resulting clods crumble at the first rain. Since these soils are sticky and plastic when wet, they are sometimes called black waxy soils and the region the black waxy belt. The Houston and associated soils are naturally productive, and the Blackland belt in general has been noted for its high yields of good-quality cotton. They are devoted mostly to the production of cotton, although other crops may be grown profitably.

The tests with varieties of cotton at Temple were conducted on Bell

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\*The work reported in this Bulletin was conducted on the first site of the Station about midway between Temple and Belton. The Station was moved at the close of 1927 to a new site two miles south of Temple, where a large area of typical Houston clay soil is available for experiments. These variety tests are being continued on a larger scale at the new location.

(previously correlated and mapped, Simmons clay) and Trinity clay soils, which are the alluvial soils most commonly associated with the Houston soils. In all except three years the variety tests were on Bell clay, which in many respects is similar to the Houston black clay, although it is less plastic and somewhat lighter in color. Trinity clay is an alluvial soil comparatively free of root rot. The Bell and Houston soils are both favorable for the development of cotton root rot, and it was because of heavy losses from this disease that the Trinity clay soil was used, since root rot is less generally prevalent on this soil. The soils on the Station are interspersed among and are generally found in close association with the Houston soils. The results of these variety tests are, therefore, probably more nearly applicable to the Houston soils and to the entire Blackland prairie region, including some interior minor blacklands in South Texas, aggregating some 11,000,000 acres, than any other tests conducted.

### WEATHER CONDITIONS

The rainfall in the Blackland region is of the humid type, ranging from 48 inches average annual precipitation at Clarksville in the northeastern part to about 27 inches at San Antonio in the southwestern part. Thus in the southwestern section subhumid conditions are closely approached. The figures in the following table were taken from the records of the United States Weather Bureau, "Climatological Data: Texas Section," and show the rainfall at several points in the Blackland region.

Station	Location in region	Annual rainfall in inches	Number of years averaged
San Antonio.....	Southwestern.....	26.83	43
Austin.....	Southwestern.....	33.80	72
Temple.....	Central.....	33.76	41
Waco.....	Central.....	35.49	47
Dallas.....	Northern.....	37.46	48
Greenville.....	Northern.....	36.65	28
Sherman.....	Northern.....	37.93	39
Clarksville.....	Northeastern.....	48.65	28

It will be noted that the rainfall increases from the southwest to the northeast in this region.

The rainfall by months for the fifteen years, 1913 to 1927, inclusive, at Substation No. 5, Texas Agricultural Experiment Station, Temple, is given in Table 1. The average annual rainfall for this period was 36.52 inches. The rainfall varied from 20.75 inches in 1917, an exceptionally dry year, to 50.73 inches in 1913. Approximately 18 per cent, or 6.62 inches, of the annual rainfall occurred during June, July, and August for the fifteen-year period. Rainfall in this section of the State is generally sufficient to produce one-half bale of cotton to the acre on the average.

The average length of the frost-free period, for the last fourteen years, 1914 to 1927, inclusive, was 220 days. The shortest frost-free period for a given year was 190 days, which was in 1913, and the longest, 264 days, which was in 1922. The average date of the last killing frost in the spring was March 30, while the average date of the first killing frost in the fall was November 5. The latest killing frost on record in the spring occurred on April 18, while the earliest killing frost in the fall was October 9.

Table 1.—Rainfall at Substation No. 5, Temple, Texas, 1913 to 1927, inclusive.

Month	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	Av. for the period
Total.....	50.73	45.04	34.23	25.36	20.75	29.36	47.45	44.73	40.75	34.90	43.53	27.59	22.67	41.11	39.53	36.52
Total for June, July and Aug.	4.25	8.95	9.01	3.97	5.04	1.64	13.89	17.13	8.43	2.77	5.52	2.21	2.71	5.36	8.37	6.62
January.....	3.50	0.16	2.13	6.09	1.29	1.03	3.51	4.81	1.44	2.71	0.80	1.99	1.38	6.23	1.97	2.37
February.....	4.50	1.54	1.47	0.04	0.93	1.35	3.36	0.79	0.78	2.28	5.29	4.39	0.17	0.18	4.51	2.07
March.....	0.50	3.67	1.57	0.16	0.57	0.81	4.95	1.98	2.62	4.43	2.34	2.78	.....	6.48	2.70	2.03
April.....	1.80	7.55	8.48	3.19	3.03	7.72	1.77	0.52	7.92	10.36	7.06	2.90	1.99	5.92	4.19	4.95
May.....	2.47	9.83	1.55	6.92	3.19	1.19	3.20	4.80	1.42	6.70	1.23	5.38	2.60	2.14	3.77	3.88
June.....	1.56	0.10	1.52	1.85	1.18	1.57	7.87	3.06	5.42	0.43	2.97	1.32	0.31	2.65	7.02	2.24
July.....	0.99	0.80	0.57	1.31	2.67	.....	0.92	3.66	2.14	0.79	1.80	0.28	0.51	1.40	1.27	1.26
August.....	1.70	8.05	6.92	0.81	1.19	0.07	5.10	10.41	0.87	1.55	0.75	0.61	1.89	1.31	0.08	3.07
September.....	9.11	0.38	3.40	1.28	4.12	1.42	4.09	5.76	13.60	0.90	5.15	5.37	3.77	2.05	3.00	4.49
October.....	6.79	5.35	1.09	1.08	.....	2.89	7.08	2.37	0.28	1.72	5.46	0.14	5.88	7.26	9.15	3.09
November.....	6.68	4.95	3.03	2.43	2.37	6.24	3.44	5.40	0.76	2.91	2.38	1.21	3.67	1.78	0.19	3.50
December.....	11.13	2.66	2.50	0.20	0.21	5.07	2.16	1.17	3.50	0.12	8.30	1.22	0.50	3.71	1.68	2.98

### METHOD OF CONDUCTING THE VARIETY TEST

During the sixteen years of the variety experiments a large number of varieties and strains of cotton have been tested. At the time of instituting the tests few varieties had been tried by farmers of the Blackland region and little was known of the relative merits of those generally grown. Some varieties grown extensively in other cotton-producing areas had not been introduced in this section. The variety work was undertaken to measure the relative merit of the various varieties of cotton available and to discover the type best adapted.

The varieties tested for two or more years are listed in Table 19. This table shows the average yield of each variety for each year tested, and that there were three periods during each of which a different group of varieties was introduced into the test. Many varieties were used in the earlier years. Prior to 1919 numerous varieties from other States were included in the tests. From 1912 to 1915, inclusive, a group of 50 varieties obtained from other States was tested. After the 1915 crop season, 24 of these varieties were discarded as not being adapted to the conditions, while 26 varieties were retained for further trial.



From 1916 to 1919 another group, comprising 6 varieties, also obtained from other States, was added to the test, but all of these were discarded at the end of the 1919 crop season. The varieties tested from 1920 to 1924, inclusive, were all of Texas origin and for the most part were grown during the previous periods and also appeared in later plantings. In general, these are now considered standard varieties and can be used as a measuring stick for other varieties within their class. During the last three years, 1925-27, inclusive, several new strains, which have been developed as selections from the standard varieties, have been tested. The seed of each variety tested were secured direct from the breeder or grower each year. Information on the source of seed of the varieties tested may be obtained by referring to Table 31.

**Preparation of Seed Bed:** In general, the land utilized for variety tests had been under a crop rotation in which the previous crop was fibrous-rooted and matured early, permitting either summer or early-fall soil preparation. In years when the test followed small grain, the land was plowed first during June or July to a depth of 4 or 5 inches, with a flat-breaking plow, and again in October or November to a depth of 6 inches. When the cotton followed corn, grain sorghum, or hay crops, the land was plowed once to a depth of 6 inches, as early in the fall as the current crop could be removed. This plowing usually came in October. Following flat breaking, the land was disked or harrowed as frequently as required to keep it free from vegetation and in good tilth. Early in the spring, prior to planting cotton, the land was laid off in low beds three feet apart. No commercial fertilizer or barnyard manure was used.

**Planting:** In general, cotton was planted on a low bed about the middle of April, if weather conditions permitted. A single-row, cell-drop, riding planter was used in planting the cotton seed, except in 1925, 1926, and 1927, when the cotton was planted by hand in hills 18 inches apart. An 18-inch sweep was run through the middle between the rows prior to planting, which left the land practically free of weeds at the completion of planting. The seeds were planted in a firm, moist seed bed at the rate of one bushel to the acre. In most cases a complete germination of the seed was secured in seven to ten days after planting.

The size of the plat most frequently used in conducting the variety test was one-sixteenth of an acre, consisting of seven rows three feet wide and 132 feet long. The first and seventh rows of each plat were used as guard- or border-rows and were discarded in harvesting. These guard-rows were used to eliminate, as far as possible, the influence of one variety on another in adjacent plats.

The cotton in the variety test was planted in duplicate, except in 1927, when it was planted in triplicate. The order of planting the varieties was changed on the second acre to overcome, as far as possible, any effect on yield due to variation in the soil or root rot infection.

**Cultivation:** The first cultivation was given the cotton soon after a complete stand was obtained. A riding cultivator was used, with six-inch sweeps set flat. The soil was thrown directly under the young cotton plants, which helped to support them. This was one of the most important cultivations which the cotton received and resulted in the killing of all tender weed growth that was present at the time. Several days after the first cultivation was given, and when the plants had four to six leaves, the cotton was thinned. The cotton was again cultivated immediately following the thinning, the soil being thrown well around the plants to prevent them from being injured by winds and rain. Subsequent cultivations were given as needed. When the cotton became too large to permit the use of riding cultivators, large sweeps attached to single stocks were used to keep the middle free from weeds and to provide a loose soil mulch.

**Picking:** Usually the first bolls of cotton opened during the first part of August, if the crop was planted at the normal time. The crop was harvested in three to five pickings, depending on weather conditions. During the earlier years of the cotton variety tests, pickings were made at intervals of two weeks, but in 1922 and 1923 the pickings were made at weekly intervals.

**Records Obtained:** Records were obtained on a uniform basis for yield of seed cotton, yield of lint, and percentage of lint, throughout the entire period of the test. Beginning with 1916, observations on a comparable basis were also made on size of boll, earliness, and length of staple.

Yields of seed cotton and lint were reported in pounds per acre and the ratio of lint to seed cotton in percentage. The size of boll was given in the number of bolls per pound, and earliness as the percentage of the total crop produced at the first picking. The length of lint is reported in inches or fractions of an inch and was determined by official and licensed cotton classers of the Department of Textile Engineering of the Agricultural and Mechanical College of Texas.

During recent years more records were made of the extent of damage due to cotton root rot. Previously these records were not consistently made and they are of little value in studying varieties, but it is known that the lack of uniform infection from plat to plat might influence the rating of any varieties for individual years.

### CLASSIFICATION OF VARIETIES

The term "variety" as used in this Bulletin is synonymous with "trade name" and is not intended to imply that each cotton reported on is a separate and distinct type possessing measurable differences. Fresh seed for planting the variety tests is received from the individual breeders or growers each year and given separate Texas Station numbers. The application sheet bearing this official number also shows

the name assigned by the breeder and all the available history of the lot of seed.

Some of the so-called varieties now being sold are really strains which have been selected for certain characteristics from a few recognized standard types. It is not possible in every case to classify each variety as to type since the complete history and origin of every variety is not known. However, the following table shows in a general way the relationship of several of the varieties and strains commonly grown.

Table 2.—Classification of some varieties of cotton.

Type	Parent variety	Present trade name
Mebane Triumph	Mebane	Mebane Harper Anton
	Kasch	Kasch Qualla Cliett Superior
Truitt	Truitt	Truitt
Rowden	Rowden	Rowden Sunshine Belton
Lone Star	Lone Star	Lone Star Lankart
Acala	Acala	Acala

## RESULTS BY YEARS

### Results in 1912

There were 54 varieties tested in 1912, and the results are shown in Table 3. The varieties are arranged in order of yield of lint. The yields of the different varieties ranged from approximately one-fourth to three-fourths of a bale per acre. The five highest-yielding varieties in the order named were Unknown 246, Uncle Sam 248, Station 134, Lone Star, and Selection No. 1.

### Results in 1913

Weather conditions in 1913 were unusually favorable for cotton, which resulted in yields considerably above the average. The better varieties made a yield of nearly a bale to the acre. The rainfall was well distributed throughout the year and was the highest on record (50.73 inches). There were 96 varieties and strains tested in 1913, as shown in Table 4. Union Big Boll, Lone Star, Mortgage Lifter 152, Virgatus, and Mortgage Lifter 132, made the highest yields, in the order named.

### Results in 1914

Sixty-six varieties and strains of cotton were tested in 1914, the results of which are given in Table 5. Weather conditions were favorable for cotton and the yields of the better varieties were more than one-half bale per acre. The rainfall was well distributed during the growing season, and the total for the year (45.04 inches) was 8.52 inches above the 15-year average. The five highest-yielding varieties were Columbia, Huffman, Truitt, Robert's Big Boll, and Mebane Triumph.

### Results in 1915

Forty-four varieties were grown in the test in 1915, and the results are given in Table 6. The five highest-yielding varieties, in the order named, were Cook A-675, Mebane Triumph, Cook 729, Rublee, and Cleveland 433. The rainfall was slightly below the 15-year average, although it was well distributed during the growing season. The yields were about as large as those of 1914, averaging slightly more than one-half bale per acre for the better varieties.

### Results in 1916

Rainfall during 1916 (25.36 inches) was 11.16 inches below the average for the 15-year period, 1913 to 1927, inclusive. Yields considerably above the average were secured, however, due largely to the favorable distribution of the rainfall from April until September. There were 39 varieties and strains of cotton in the variety test in 1916, as shown in Table 7. Ferguson's A-711, Willis No. 2, Cook 924, Mebane Triumph, and Lone Star, made the largest yields. The yields of these varieties ranged from 440 to 354 pounds of lint per acre.

### Results in 1917

Forty-four varieties were grown in the test in 1917, as shown in Table 8. The rainfall was only 20.75 inches, the lowest for the 15-year period, 1913 to 1927, inclusive. The pre-season rainfall was low, although the seasonal rainfall, April to September, was ample and unusually well distributed. Satisfactory yields were secured, however, the better varieties averaging about one-half bale per acre. Harvell, Kasch, Ferguson Round Nose, Mebane Triumph 406, and Chisholm were the best-yielding varieties.

### Results in 1918

The yields in 1918 were the lowest obtained during the 16-year period, except 1925. The yields ranged from 66 to 144 pounds of lint per acre for the 44 varieties tested, as shown in Table 9. The rainfall (29.36 inches) was 7.16 inches below the 15-year average and was poorly distributed during the growing season. There was practically no effective rainfall during July and August, as shown in Table 1, and almost half of the rainfall occurred in the late fall after the cotton had been harvested. The five most profitable varieties tested in 1918, in the order

named, were Acala, Mebane, Improved Champion, F. G. 33, and Mebane Triumph.

#### Results in 1919

Weather conditions were favorable for cotton in 1919. The rainfall (47.45 inches) was 10.93 inches above the 15-year average and was well distributed during the growing season. The rainfall during June, July and August was 13.89 inches, which was the highest total rainfall for these three months during the fifteen years, except in 1920, when it was 17.13 inches. The yields of the better varieties ranged from one-half to almost three-fourths of a bale per acre. Forty-three varieties and strains of cotton were tested in 1919, as given in Table 10. Holdon, Harvell, Belton, Kasch, and Lone Star, in the order named, were the five highest-yielding varieties.

#### Results in 1920

Only eight varieties were tested in 1920. Weather conditions were favorable for cotton, resulting in yields ranging from 431 to 569 pounds of lint per acre. Rainfall in June, July and August was the highest recorded for these months during the 15-year period and amounted to 17.13 inches. The rainfall (44.73 inches) was well distributed. Mebane made the highest yield and was followed by Kasch, Belton, Lone Star, and Bennett's Lone Star, as shown in Table 11.

#### Results in 1921

The yields of the varieties in 1921 were considerably lower than those of 1920, and ranged from 132 to 194 pounds of lint per acre, as shown in Table 12. The rainfall (40.75 inches) was 4.23 inches above the average, but was not so well distributed during the growing season as that of 1920, as shown in Table 1. Approximately one-third of the rainfall occurred during the month of September, which came too late to benefit the crop to any appreciable extent. The lack of sufficient rainfall in August caused excessive shedding of blooms and young bolls, resulting in lower yields than those of the previous year. Ten varieties were grown in 1921. The five highest-yielding varieties, in the order named, were Kasch, Lone Star (5995), Rowden, Lone Star (5986), and Durango.

#### Results in 1922

Thirteen varieties were grown in the test in 1922. The yields of the varieties ranged from 179 pounds of lint per acre for Snowflake to 370 pounds per acre for Kasch (Table 13). The pre-season rainfall, January to April, inclusive, amounted to 19.78 inches, which was approximately 57 per cent of the rainfall for the year. The rainfall during the latter part of the growing season was rather light, although the crop did not at any time appear to suffer for the lack of moisture. Kasch again made the highest yield and was followed by Mebane (6563), Bennett's Lone Star, Lone Star (6565), and Truitt.



### Results in 1923

The yields in 1923 were the largest obtained during the 16 years, 1912 to 1927, inclusive, and averaged considerably more than a bale per acre for the better varieties. These unusually large yields were the result of an optimum amount and favorable distribution of rainfall (43.53 inches) during the year. Thirteen varieties were included in the test in 1923, and the results are given in Table 14. New Boykin led the varieties with a yield of 700 pounds of lint per acre. The next highest-yielding varieties, in the order named, were Belton, Buckelew Big Boll, Cliett Superior, and Truitt.

### Results in 1924

New Boykin again led the varieties in yield in 1924. It was followed by Lone Star, Kasch, Lankart, and Sunshine. Thirteen varieties were grown in the test, and the results are given in Table 15. The yields ranged from 269 pounds of lint per acre for Snowflake to 414 pounds per acre for New Boykin. While the rainfall (27.59 inches) was considerably below the average, it was well distributed and good yields were secured.

### Results in 1925

Weather conditions during 1925 were unfavorable for cotton. The rainfall was only 22.67 inches, which was 13.85 inches below the 15-year average. Over half of the rainfall occurred during the late fall, which was of little benefit to the crop. The pre-season, as well as the seasonal rainfall, was light, resulting in low yields, ranging from 79 pounds of lint per acre for Snowflake to 148 pounds per acre for Kasch. Sixteen varieties were grown in 1925, as shown in Table 16. Kasch was the highest-yielding variety and was followed by Cliett, Mebane, Qualla, and Lankart, in the order named.

### Results in 1926

Seventeen varieties were tested in 1926, and the results are given in Table 17. Weather conditions were favorable for the production of cotton, and resulted in yields considerably above the average, ranging from 345 pounds of lint per acre to 519 pounds. The rainfall (41.11 inches) was 4.59 inches above the 15-year average. It was well distributed throughout the year and especially during the growing season, and at no time did the crop appear to suffer from lack of moisture. The five highest-yielding varieties tested in 1926, in the order named, were Qualla, Kasch, Sunshine, Harper, and New Boykin.

### Results in 1927

The yields of the 19 varieties tested in 1927 were below the average and ranged from 151 pounds of lint per acre for Rowden to 204 pounds per acre for Kasch, as shown in Table 18. The rainfall (39.53 inches) was slightly above the average, but this was not well distributed, especially

during the growing season. The deficiency of rainfall during July and August caused excessive shedding, resulting in low yields. Kasch made the highest yield and was followed closely by New Boykin, Buckner, Truitt, and Anton.

Table 3.—Varieties of cotton tested in 1912.

T. S. No.*	Variety	Percentage of lint	Date, first open boll	Circumfer- ence of boll in inches	Acre yield, pounds	
					Seed cotton	Lint
246	Unknown.....	36.2	7-30	4.5	1018	369
248	Uncle Sam.....	37.8	8-5	4.8	963	364
134	Station.....	35.9	8-3	4.5	976	350
11	Lone Star.....	41.6	8-6	4.8	825	343
166	Selection No. 1.....	36.5	8-3	4.0	908	331
164	Selection No. 4.....	36.2	8-5	4.3	893	323
18	Lone Star.....	35.5	8-6	5.0	908	322
4	Virgatus.....	35.8	8-6	4.5	866	310
250	Bradbury.....	37.3	8-5	4.3	805	300
6	Mebane Triumph.....	40.4	8-2	4.5	742	300
167	Rowden Prolific.....	32.0	8-5	4.3	935	299
15	Rowden.....	35.6	8-6	5.0	825	294
16	Crowder.....	33.7	8-5	4.8	866	292
133	Triumph.....	36.9	8-5	4.3	770	284
252	Unknown.....	37.5	8-2	4.3	753	282
128	Mebane Triumph.....	34.7	8-3	4.8	804	279
163	Bohemian Big Boll.....	36.9	8-6	4.5	753	278
135	Union Big Boll.....	36.3	8-2	3.8	763	277
154	Lone Star.....	37.3	8-3	4.5	742	277
24	Virgatus.....	35.8	8-5	4.5	770	276
162	Cook's Improved.....	38.7	8-5	3.8	706	273
243	Saunders's Triumph.....	35.7	8-6	4.0	746	266
160	Early Selection.....	35.4	7-31	3.8	743	263
129	Edgeworth.....	35.3	8-1	4.3	743	262
1	Cleveland Big Boll.....	32.2	8-2	4.0	811	261
23	Chandler's Prolific.....	37.0	8-1	4.3	701	259
79	Jackson.....	35.6	8-5	5.3	729	259
156	Cleveland Big Boll.....	34.0	8-4	4.0	743	253
242	Unknown.....	32.1	8-2	4.0	784	252
251	Unknown.....	34.7	8-2	4.0	715	248
22	Dixie.....	31.3	8-5	4.0	791	248
126	Hendricks.....	34.1	8-6	4.3	715	244
158	Durango.....	32.4	8-5	3.8	745	241
159	Toole.....	35.5	8-6	3.8	674	239
153	Truitt.....	33.3	8-2	3.8	693	231
245	McKelson Big Boll.....	32.0	7-30	3.8	715	229
244	Unknown.....	34.5	7-30	3.8	660	228
132	Mortgage Lifter.....	31.1	8-3	4.3	729	227
170	Hartsville No. 9.....	33.0	8-12	4.8	688	227
12	Floradora.....	35.6	8-6	4.0	633	225
256	Triumph.....	38.1	8-2	4.5	590	225
155	Chamber's Staple.....	38.8	8-6	4.3	660	223
130	Bank Account.....	33.3	7-30	4.3	660	220
157	Cook's Short Staple.....	34.1	8-3	4.0	642	219
77	Rowden.....	36.0	8-5	4.5	605	218
119	Keenan.....	33.3	8-6	4.3	646	215
255	Nankeen.....	33.8	7-31	4.5	633	214
78	Hendricks.....	36.0	8-1	4.3	564	203
20	Dillion.....	33.3	8-5	3.8	605	201
249	Unknown.....	29.6	7-31	3.5	660	195
169	Webber.....	32.5	8-12	4.3	578	188
19	Hartsville.....	32.4	8-10	4.8	578	187
168	Russell Big Boll.....	31.9	8-11	4 0	413	132

\*Texas Station Number.

Table 4.—Varieties of cotton tested in 1913.

T. S. No.	Variety	Percentage of lint	Date, first open boll	Circumfer- ence of boll in inches	Acre yield, pounds	
					Seed cotton	Lint
135	Union Big Poll.....	39.3	8-5	4.5	1224	481
488	Lone Star.....	36.3	8-2	4.7	1244	452
152	Mortgage Lifter.....	36.9	8-6	4.3	1183	437
4	Virgatus.....	34.0	8-7	4.5	1265	430
132	Mortgage Lifter.....	31.1	8-1	4.3	1341	417
128	Mebane Triumph.....	36.8	8-3	4.5	1120	412
243	Saunders' Triumph.....	34.1	8-6	4.6	1203	410
79	Jackson.....	35.8	8-10	5.0	1134	406
165	Mebane Triumph.....	34.8	8-6	4.4	1148	400
446	Simpkin's Prolific.....	38.9	8-3	3.7	1024	398
11	Lone Star.....	37.5	8-5	4.5	1059	397
349	Luce.....	37.5	8-6	4.8	1045	392
167	Rowden's Prolific.....	40.0	8-2	4.7	968	387
482	Bohler's Triple Jointed.....	35.0	8-4	4.5	1073	376
16	Crowder.....	35.0	8-2	4.6	1066	373
725	Mebane Triumph.....	40.5	8-5	4.6	900	365
726	Harvell.....	39.1	8-15	4.8	935	365
22	Dixie.....	33.3	8-10	4.5	1086	362
250	Bradbury.....	32.1	8-10	4.0	1120	360
474	Truitt.....	33.3	8-10	4.3	1066	355
415	Huffman.....	31.1	8-4	5.0	1141	355
492	Dixie.....	37.0	8-11	3.8	956	354
476	Texas Oak.....	37.2	8-10	3.7	949	353
464	Long Staple.....	38.4	8-6	3.5	881	338
475	Texas Wood.....	37.5	8-12	3.7	894	335
78	Hendricks.....	36.0	8-6	4.4	928	334
130	Bank Account.....	35.2	8-3	3.9	914	322
471	Dillion.....	33.3	8-6	4.1	969	322
166	Selection No. 1.....	34.4	8-2	4.5	908	312
486	Robert's Big Boll.....	29.1	8-5	4.5	1073	312
443	Half and Half.....	37.5	8-12	4.4	832	312
468	Long Staple.....	28.0	8-10	3.5	1086	304
485	Cleveland Big Boll.....	33.0	8-6	4.5	921	304
15	Rowden.....	31.3	8-5	4.5	969	303
479	Toole.....	36.3	8-16	3.9	832	302
151	Nubari.....	32.0	8-21	3.5	928	297
480	Culpepper's Imp. Big Boll.....	31.4	8-10	4.0	942	296
494	Cannon's World Skinner.....	33.3	8-5	4.5	880	293
487	Dongola Big Boll.....	27.4	8-10	4.4	1059	290
493	Foster.....	34.3	8-12	3.9	818	281
469	Hawkin's.....	30.6	8-15	4.5	908	278
169	Webber.....	30.1	8-12	3.8	914	275
164	Selection No. 4.....	33.3	8-1	4.8	818	272
440	Brazos.....	33.3	8-11	4.8	811	270
129	Edgeworth.....	33.3	8-7	3.8	804	268
441	Petway's Imp. Prolific.....	32.3	7-26	3.7	826	267
20	Dillion.....	31.2	8-16	4.0	846	264
170	Hartsville No. 9.....	35.2	8-11	4.4	749	264
412	Foster Long Staple.....	31.3	8-5	4.0	825	258
118	Long Staple.....	35.0	8-5	4.7	729	255
491	Trice.....	31.8	8-3	4.0	791	252
442	Simpkin's Ideal.....	30.5	8-3	3.8	804	245
490	Durango.....	29.9	8-6	4.0	811	242
124	Cook's Long Staple.....	33.3	8-5	4.1	722	240
7	Burn's Long Staple.....	35.1	8-15	3.8	681	239
496	Broadwell's Double Jointed.....	33.3	8-2	4.1	715	238
12	Floradora.....	29.4	8-6	4.0	805	237
444	Haaga's Long Staple.....	33.3	8-2	3.8	681	227
481	Cook's Imp. Big Boll.....	24.8	8-11	4.7	914	227
411	Hite's Early Prolific.....	33.3	8-11	3.9	660	220
499	S. P. I. No. 24544.....	28.6	7-27	3.9	763	218
23	Chandler's Prolific.....	37.5	7-28	4.0	578	217
8	Brabham.....	37.6	8-3	4.3	564	212
2	Bolivia Long Staple.....	25.4	8-4	4.0	832	211
462	Sakellarides.....	30.1	8-22	3.3	688	207
478	Allen's Long Staple.....	33.3	8-2	3.4	619	206
483	Willet's Sp. Columbia.....	25.2	8-15	4.3	818	206
254	Haaga's Extra Long Staple.....	25.0	8-6	4.1	811	203
348	Black Rattler.....	27.5	9-5	4.1	736	202
466	Webber.....	26.1	8-6	4.3	757	198
120	Burn's Long Staple.....	32.8	8-5	4.0	598	691

Table 4.—Varieties of cotton tested in 1913—Continued.

T. S. No.	Variety	Percentage of lint	Date, first open boll	Circumference of boll in inches	Acre yield, pounds	
					Seed cotton	Lint
484	Willet's Special Keenan	27.1	8-16	4.0	722	196
158	Durango	29.1	8-5	4.3	660	192
3	Columbia Long Staple	30.0	8-3	4.4	639	192
472	Peterkin	33.3	8-10	3.3	564	188
445	Webber	32.5	8-6	4.5	564	183
463	Haaga's Foster	26.1	8-7	4.1	701	183
497	Columbia Long Staple	33.3	8-3	4.0	529	176
414	Durango Long Staple	23.0	8-11	4.0	765	176
6	Mebane's Triumph	42.5	8-5	4.6	413	176
70	Brahham	23.8	8-3	4.4	736	175
74	Allen's Long Staple	33.3	8-6	4.1	523	174
473	Willet's Red Leaf	31.3	8-6	3.8	529	166
14	Long Staple	26.0	8-12	4.0	633	165
413	Snowflake Long Staple	22.0	8-6	3.4	736	162
470	Sunflower Long Staple	26.8	8-10	3.9	523	140
451	Oyotsubuki	30.0	7-26	3.3	454	136
245	McKelson Big Boll	24.2	7-27	4.0	543	131
449	Hoiyo	31.2	7-21	2.9	413	129
477	Willet's Improved Webber	30.1	8-14	4.3	419	126
498	Bolivia Long Staple	34.1	8-8	4.3	315	107
450	Shanghai	29.0	7-26	2.9	364	106
465	Long Staple	20.9	8-9	3.8	481	101
448	Makpo	29.1	7-21	2.8	186	54
447	Chindo	33.3	7-18	3.0	117	39
131	Sachalarites	30.1	8-20	3.5	124	37

Table 5.—Varieties of cotton tested in 1914.

T. S. No.	Variety	Percentage of lint	Date, first open boll	Bolls to the pound	Acre yield, pounds	
					Seed cotton	Lint
483	Columbia	39.2	8-10	80	833	327
415	Huffman	32.8	8-5	80	924	303
474	Truitt	33.7	8-11	85	894	301
486	Robert's Big Boll	34.3	8-11	72	876	300
725	Mebane Triumph	36.0	8-5	54	830	299
479	Toole	33.3	8-4	105	894	298
152	Mortgage Lifter	32.4	8-10	85	894	290
475	Texas Wood	33.7	8-5	125	843	284
938	Cook	38.4	7-31	63	740	284
11	Lone Star	34.6	7-31	65	803	278
1058	Mullins	36.6	8-5	58	732	268
941	Mebane Triumph	36.0	8-4	60	732	264
135	Union Big Boll	32.5	8-10	83	805	262
480	Culpepper's Big Boll	32.7	8-13	110	794	260
130	Bank Account	32.3	7-31	83	790	255
494	Cannon's World Skinner	33.0	8-5	75	770	254
446	Simpkin's Prolific	33.0	8-4	134	770	254
942	Lone Star	34.5	8-5	54	728	251
485	Cleveland Big Poll	30.4	8-5	95	821	250
1060	Hasting's Upright	37.6	8-5	72	656	247
469	Hawkins	32.2	8-4	105	767	247
1059	Columbia Big Poll	35.9	8-10	68	684	246
411	Hite's Early Prolific	34.3	8-10	110	702	241
443	Half and Half	35.8	8-5	85	673	241
482	Bohler's Triple Jointed	32.6	8-10	84	708	231
165	Mebane Triumph	32.1	8-4	75	721	231
481	Cook's Big Boll	29.4	8-10	97	780	229
129	Edgeworth	29.0	8-5	64	774	224
476	Texas Oak	36.4	8-5	90	614	223
495	Hendricks	29.9	8-4	88	746	223
940	Pemiscot	29.4	8-5	80	759	223
937	Haaga's No. 3	28.0	8-11	75	794	222
471	Dillon	28.6	7-31	100	767	219

Table 5.—Varieties of cotton tested in 1914—Continued.

T. S. No.	Variety	Percentage of lint	Date, first open boll	Bolls to the pound	Acre yield, pounds	
					Seed cotton	Lint
16	Crowder.....	31.1	8-5	72	704	219
487	Dongola Big Boll.....	27.8	7-31	130	784	218
793	Belton.....	35.1	8-5	54	618	217
960	Robert's Improved.....	31.0	8-5	80	693	215
445	Webber.....	28.1	8-11	78	735	207
961	Perry's Improved.....	33.3	8-5	125	601	200
413	Snowflake.....	28.0	7-31	92	715	200
783	King.....	31.7	7-31	106	621	197
472	Peterkin.....	33.2	8-5	140	588	195
959	Chisholm.....	30.2	8-4	72	639	193
77	Rowden.....	32.9	8-4	57	583	192
170	Hartsville No. 9.....	30.9	8-5	70	619	191
118	Long Staple.....	30.4	7-31	94	629	191
951	Cleveland Big Boll.....	37.9	8-10	105	498	189
962	Alabama Wonder.....	30.0	8-5	80	622	187
7	Burn's Long Staple.....	30.8	8-4	108	588	181
14	Long Staple.....	30.2	8-5	66	597	180
504	Durango.....	27.0	7-31	78	667	180
939	Floradora.....	25.1	8-5	115	718	180
444	Haaga's Long Staple.....	25.7	8-5	115	698	179
414	Durango.....	27.3	8-4	116	636	174
412	Foster Long Staple.....	30.2	8-4	75	571	172
496	Broadwell's Double-jointed.....	28.2	8-2	100	604	170
466	Webber.....	26.6	8-5	80	629	167
478	Allen's Long Staple.....	24.1	8-11	125	677	163
498	Bolivia Long Staple.....	26.0	8-5	80	615	160
936	Haaga's No. 2.....	25.1	8-5	102	633	159
470	Sunflower Long Staple.....	21.5	8-11	137	655	141
348	Black Rattler.....	26.1	7-31	50	491	128
473	Willet's Red Leaf.....	30.8	8-13	134	402	124
477	Improved Webber.....	25.6	8-13	80	371	95
10	Yuma.....	28.0	8-14	106	285	80
958	Sea Island.....	26.9	8-15	110	130	35

Table 6.—Varieties of cotton tested in 1915.

T. S. No.	Variety	Percentage of lint	Date, first open boll	Bolls to the pound	Acre yield, pounds	
					Seed cotton	Lint
1153	Cook A-675.....	35.0	8-10	70	949	332
1276	Mebane Triumph.....	38.8	8-6	57	799	310
1377	Cook 729.....	38.6	8-9	67	767	296
1277	Rublee.....	33.8	8-5	78	852	288
1375	Cleveland 433.....	35.0	8-11	75	817	286
1151	Cleveland A-323.....	33.3	8-12	70	829	276
1360	Roberts.....	32.9	8-16	60	830	273
1363	Moneymaker.....	35.0	8-10	93	777	272
1378	Lone Star.....	35.0	8-10	52	777	272
1058	Mullins.....	40.0	8-12	58	678	271
1267	Round Nose.....	33.8	8-12	68	799	270
725	Mebane Triumph.....	40.0	8-10	50	670	268
1379	Mebane.....	36.3	8-10	60	736	267
1371	Bostwick.....	32.4	8-12	76	802	260
1368	Texas Wood.....	35.0	8-9	66	740	259
1260	Ricks.....	32.5	8-10	100	785	255
1274	Huffman.....	35.0	8-12	67	714	250
1376	Cleveland X Cook.....	34.8	8-10	63	718	250
1359	Russell.....	35.0	8-6	64	714	250
1152	King X Triumph.....	33.8	8-11	89	737	249
474	Truitt.....	33.8	8-11	60	728	246
1383	Lone Star.....	37.5	8-11	60	643	241
942	Lone Star.....	35.0	8-12	80	674	236
1373	Layton's Improved.....	33.8	8-11	116	689	233
1367	Truitt.....	32.5	8-11	75	708	230



Table 6.—Varieties of cotton tested in 1915—Continued.

T. S. No.	Variety	Percentage of lint	Date, first open boll	Bolls to the pound	Acre yield, pounds	
					Seed cotton	Lint
1059	Columbia Big Boll	35.0	8-6	82	657	230
1358	Texas Oak	33.8	8-5	80	678	229
1357	Bates	39.2	8-11	110	584	229
1266	Virgatus	32.5	8-12	66	705	229
1372	Mortgage Lifter	32.5	8-12	79	698	227
1370	Simpkins	32.0	8-4	90	681	218
1374	Durango	32.5	8-10	89	652	212
793	Belton	36.3	8-16	58	573	208
1275	Rowden	37.8	8-12	60	545	206
1362	Cleveland	33.8	8-12	84	609	206
1366	Toole	32.3	8-11	126	632	204
1361	Columbia	30.3	8-12	75	660	200
1060	Hastings Upright	33.8	8-10	96	577	195
1262	Webber No. 82	28.8	8-10	90	660	190
1369	Cook	30.6	8-10	76	614	188
1261	Webber No. 49	28.8	8-10	105	597	172
1264	Keenan-Goodson	29.4	8-22	79	565	166
1263	Hartsville No. 9	28.6	8-22	70	559	160
473	Willet's Red Leaf	30.4	8-11	112	388	118

Table 7.—Varieties of cotton tested in 1916.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
1822	A-711 (New Boykin)	40	10/16	M	73	86.7	1100	440
1943	Willis No. 2	37	11/16	M	84	85.5	1057	391
3445	Cook 924	40	11/16	M	84	87.2	968	387
725	Mebane Triumph	40	7/8	S M	80	100.0	885	354
1820	Lone Star	34	13/16	M	80	83.0	1041	354
1821	Rowden Ladd	37	7/8	S M	69	71.6	943	349
1847	Mortgage Lifter	40	11/16	M	84	92.6	868	347
1816	Rowden	37	13/16	S M	69	67.8	919	340
804	Mebane (Temple)	37	7/8	S M	84	87.0	905	335
804	Mebane (Beeville)	34	13/16	S M	84	79.5	982	334
804	Mebane (Lubbock)	31	7/8	S M	84	87.5	1061	329
804	Mebane (Spur)	34	13/16	M	84	90.9	965	328
3444	Garrison	37	3/4	M	76	77.9	884	327
1826	Cleveland Big Boll	34	3/4	S M	100	95.7	962	327
804	Mebane (Angleton)	40	7/8	S M	84	85.1	815	326
1833	Lone Star	37	7/8	S M	76	86.1	865	320
1846	Sure Crop	34	3/4	M	73	93.2	894	304
1817	Ferguson's Round Nose	31	3/4	S M	67	87.4	961	298
1818	Rowden	37	13/16	S M	64	81.4	805	298
1861	Ideal	37	3/4	M	123	100.0	803	297
1851	Union Big Boll	31	13/16	S M	84	92.9	955	296
1825	Hawkin's Extra E. Prolific	34	11/16	M	114	89.0	841	286
1800	Wooten's Columbia	37	13/16	S M	94	91.2	770	285
1848	Matchless Early	31	11/16	M	80	100.0	900	279
1849	Sunbeam	31	3/4	S M	89	94.7	894	277
1830	Wannamaker	34	3/4	M	80	100.0	794	270
1828	Rowden	34	3/4	S M	67	83.5	785	267
1827	Lone Star	31	13/16	S M	84	90.5	858	266
1850	Hasting's Upright	31	11/16	S M	84	100.0	777	241
1834	Simpkin's Prolific	31	10/16	S G O	100	100.0	716	222
1823	Early King	31	10/16	M	107	100.0	694	215
1835	Webber 82	28	13/16	S M	84	92.4	757	212
1829	Long Staple	28	1 1/16	S M	89	87.6	754	211
1836	Hartsville 9	28	15/16	S G M	100	83.9	736	206
1838	Webber 49	31	7/8	S M	89	89.1	661	205
1815	Allen's Express	28	13/16	S M	94	100.0	696	195
1837	Keenan-Goodson	28	13/16	S M	84	87.0	611	171
1853	Yuma	31	1 1/8	S G M	146	60.0	84	26
1824	Sea Island	31	1 5/16	S G M	178	100.0	16	5

Table 8.—Varieties of cotton tested in 1917.

T.S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
2460	Harvell.....	35.7	7/8	G M	80	62.5	717	256
2465	Kasch.....	43.1	7/8	G M	73	78.0	589	254
2469	Ferguson Round Nose.....	34.0	1/2	G M	74	88.6	744	253
2470	Mebane Triumph 406.....	36.0	3/4	G M	78	86.4	656	236
2456	Chisholm.....	35.0	7/8	S M	76	84.9	669	234
725	Mebane Triumph.....	36.6	7/8	M	74	85.4	623	228
2459	Mebane.....	36.6	5/8	G M	78	85.7	620	227
2462	Improved Champion.....	39.0	5/8	G M	80	93.1	579	226
2457	Webb.....	34.5	7/8	S M	78	80.6	638	220
2504	Half and Half.....	35.9	3/4	M	119	78.5	610	219
2497	Toole.....	34.4	3/4	G M	107	63.8	622	214
2472	Lone Star.....	36.8	7/8	S M	80	88.6	579	213
2458	Rowden.....	36.9	7/8	S M	67	66.7	569	210
2466	Cook's Long Staple.....	32.3	3/4	S M	87	79.1	650	210
2494	Lone Star.....	31.7	1 1/8	G M	97	86.7	637	202
2490	Rowden Prolific.....	35.8	1	G M	76	61.2	561	201
2482	Matchless Early.....	34.0	3/4	S M	110	81.9	585	199
2468	Texas Progress.....	35.7	5/8	S M	70	60.3	555	198
2461	Acala.....	35.3	1	S G M	80	76.7	558	197
2498	Moneymaker.....	34.7	5/8	S M	128	94.9	565	196
2479	Mortgage Lifter.....	34.8	1/2	S M	76	64.1	560	195
2492	Jackson.....	33.6	1	S M	78	85.2	580	195
2491	Mebane Triumph.....	32.6	1 1/16	M	80	86.1	586	191
2496	Hite's Prolific.....	33.2	3/4	S M	123	77.3	545	181
2463	Vandvier's Heavy Fruiter.....	33.8	3/4	S M	73	80.0	533	180
2486	Cleveland Big Boll.....	33.0	3/4	M	103	89.6	530	175
2478	Sure Crop.....	33.8	3/4	G M	82	85.9	515	174
2483	Union Big Boll.....	31.3	7/8	M	80	81.3	556	174
2487	Simpkin's Prolific.....	31.0	7/8	S M	123	94.8	555	172
2485	Hawkins.....	29.1	1/2	M	97	85.3	591	172
2501	Durango.....	32.7	1 1/16	S M	103	86.3	508	166
2481	Bank Account.....	32.4	3/4	S M	107	90.3	509	165
2499	Broadwell's Double-jointed.....	32.4	3/4	S M	119	93.6	500	162
2473	Holdon.....	35.1	3/4	M	76	83.3	456	160
2493	King's Extra Early.....	30.6	3/4	G M	123	90.8	520	159
2505	Peterkin.....	33.1	7/8	G M	107	86.0	438	145
2502	Express.....	22.7	1 1/16	M	119	91.9	626	142
2489	Simpkin's Ideal.....	33.0	3/4	G M	119	96.0	430	142
2474	Wannamaker-Cleveland.....	32.7	5/8	S M	107	84.2	434	142
2467	Snowflake.....	26.2	1 3/16	M	97	56.0	511	134
2488	Early King.....	31.6	3/4	S M	107	90.0	424	134
2500	Mexican Big Boll.....	28.9	3/4	S M	89	83.0	446	129
2484	Allen's Express.....	24.3	1 1/16	S M	119	87.5	494	120
2503	Trice.....	23.5	1 1/8	G M	112	91.8	502	118

Table 9.—Varieties of cotton tested in 1918.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
3025	Acala.....	35.3	1	S M	86	71.4	408	144
3002	Mebane.....	32.7	15/16	G M	71	62.8	434	142
3056	Improved Champion.....	35.7	7/8	G M	65	77.7	395	141
3000	F. G. 33.....	35.1	1	G M	89	63.6	399	140
3006	Mebane Triumph.....	32.7	7/8	G M	80	58.2	428	140
2994	Texas Progress.....	32.3	5/8	S G M	62	62.4	430	139
3064	Toole.....	32.2	1/2	G M	91	74.1	429	138
725	Mebane Triumph.....	34.0	1	G M	73	65.1	403	137
3037	Mebane Triumph.....	35.2	15/16	G M	64	51.6	389	137
3048	Kasch.....	38.0	7/8	S G M	65	65.8	329	125
3079	Hite's Prolific.....	31.3	15/16	G M	87	70.3	393	123
3004	Webb.....	31.7	1 1/16	G M	78	62.2	379	120
3066	Half and Half.....	31.3	5/8	M	100	55.4	380	119
2997	Matchless Early.....	29.7	1/2	G M	110	79.5	397	118
3020	Sure Crop.....	33.8	5/8	G M	82	67.2	343	116
2991	Holdon.....	32.0	1 1/16	M	71	50.4	356	114
3047	Simpkin's Prolific.....	30.9	1/2	M	107	79.5	362	112
3065	Mexican Big Boll.....	29.5	5/8	G M	80	79.9	380	112
3001	Chisholm.....	32.1	1	G M	68	60.4	346	111
2995	Union Big Boll.....	29.1	3/4	S M	91	70.6	357	104
3003	Rowden.....	31.4	7/8	G M	71	58.3	328	103
3033	Ideal.....	30.1	1/2	S M	107	67.7	339	102
3038	Boykin (New).....	35.9	3/4	S G M	76	62.0	279	100
3077	Moneymaker.....	31.2	3/4	G M	89	65.2	314	98
3005	Lone Star.....	32.0	1	G M	73	64.2	306	98
2998	Vandiver's Heavy Fruiter.....	30.8	3/4	S M	82	69.3	312	96
3036	Lone Star.....	34.2	1 1/16	G M	76	53.6	281	95
3022	Bank Account.....	32.3	1/2	S M	103	73.2	297	96
3023	Wannamaker.....	32.7	1/2	G M	89	62.8	291	95
3046	Early King.....	28.7	3/4	M	100	69.5	331	95
3021	Mortgage Lifter.....	30.2	1/2	S M	78	69.6	315	95
3026	Cook's Long Staple.....	32.3	1/2	S M	84	72.3	291	94
3029	King X Triumph.....	33.5	5/8	S M	119	78.8	278	93
2990	Snowflake.....	23.6	1 5/16	G M	74	39.2	394	93
3044	Cleveland Big Boll.....	28.1	7/8	S M	84	70.1	320	90
3057	Rowden.....	29.9	15/16	S G M	68	41.9	288	86
3045	Allen's Express.....	22.8	1 1/8	S M	123	76.5	377	86
2989	King 580.....	28.2	5/8	S M	123	70.1	301	85
3062	Express.....	24.3	1 1/16	S M	97	72.4	346	84
3078	Broadwell's Double-jointed.....	30.7	7/8	M	94	77.2	257	79
2996	Hastings Upright.....	29.4	3/4	S M	103	67.3	252	74
3061	Durango.....	24.7	1 3/16	S M	110	73.4	287	71
3063	Trice.....	24.6	1 1/8	S M	91	65.7	285	70
3027	Wannamaker.....	28.6	1/2	G M	97	72.1	231	66

Table 10.—Varieties of cotton tested in 1919.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
3649	Holdon.....	34.2	1 1/16	S L M	73	97.6	1012	346
3662	Harvell.....	35.0	7/8	M	73	98.2	983	344
3653	Belton.....	34.1	1 1/8	S L M	69	95.3	974	332
3637	Kasch.....	40.0	7/8	S L M	70	96.2	815	326
3648	Lone Star.....	38.6	1 1/16	M	70	98.0	769	297
3647	Jackson.....	35.5	7/8	S L M	72	97.2	828	294
3632	Mebane.....	37.7	15/16	S L M	71	91.1	780	294
3646	Lone Star.....	34.6	1 1/16	S L M	73	96.5	844	292
3650	Rowden.....	35.8	1 1/8	S L M	71	94.1	810	290
3635	Mebane.....	37.3	7/8	S L M	72	90.1	777	290
3666	Durango.....	32.7	1 1/8	S L M	107	93.0	872	285
3658	Acala.....	36.0	1 3/16	M	87	88.1	781	281
3645	Lone Star.....	34.8	1 1/16	L M	73	94.6	807	281
3655	Ferguson Round Nose.....	35.5	3/4	M	77	96.3	792	281
3674	Union Big Boll.....	33.6	3/4	S L M	88	98.1	798	268
3651	Rowden.....	35.2	1 1/16	L M	68	97.3	759	267
3660	Truitt.....	30.7	1 3/16	S L M	74	92.3	853	262
3633	Mebane.....	36.5	1	L M	71	93.8	699	255
3639	Webb.....	35.6	7/8	S L M	83	88.6	702	250
3636	Mebane Triumph 406.....	37.3	7/8	S L M	71	96.2	668	249
793	Belton.....	36.5	1 1/16	M	70	93.4	679	248
804	Mebane.....	37.5	7/8	S L M	71	88.0	637	239
3644	Lone Star.....	36.3	1	S L M	73	94.6	628	228
3643	Lone Star.....	35.7	1 1/16	S L M	72	95.8	639	228
3654	Willis.....	38.9	7/8	S L M	72	92.3	573	223
3656	Acala.....	35.5	1 3/16	S L M	85	96.8	614	218
3676	Mebane Triumph "A".....	38.2	3/4	S L M	70	92.2	568	217
3659	Acala 5.....	36.7	1 1/16	S L M	83	89.8	583	214
3150	Lone Star.....	36.1	1	S L M	76	96.5	587	212
3634	Mebane Triumph.....	38.8	15/16	M	71	95.1	544	211
3661	Chisholm.....	34.1	7/8	S L M	68	97.3	619	211
3664	Gilstrap.....	35.6	7/8	S L M	76	93.8	579	206
3667	Express.....	31.0	1 1/8	S L M	93	91.6	665	206
3657	Acala.....	37.1	1 1/16	S L M	87	85.4	553	205
3642	Lone Star.....	34.7	1 1/16	S L M	76	92.7	591	205
3665	Buckelew Big Boll.....	37.7	7/8	M	74	80.9	533	201
3668	Foster.....	37.0	1	S L M	82	87.1	532	197
3640	Bennett's Lone Star.....	36.0	1 1/16	S L M	73	90.3	511	184
3638	New Boykin.....	38.5	15/16	S L M	76	95.0	470	181
3673	Cleveland.....	35.5	3/4	S L M	87	94.5	448	159
3670	Snowflake.....	29.0	1 7/16	S L M	77	74.2	541	157
3669	Kekchi.....	33.3	1 1/16	L M	88	91.9	399	133
3675	Half and Half.....	35.7	1	L M	82	85.9	218	78

Table 11.—Varieties of cotton tested in 1920.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
4120	Mebane.....	39.6	7/8	M	72	65.8	1437	569
4117	Kasch.....	40.1	7/8	M	69	53.1	1394	559
793	Belton.....	38.2	1	M	70	57.8	1406	537
4119	Lone Star.....	37.8	7/8	M	73	42.4	1413	534
4115	Bennett's Lone Star.....	37.9	7/8	S L M	72	55.7	1404	532
4116	Rowden.....	36.8	1	M	70	58.4	1408	518
4131	Acala.....	35.4	1 1/8	S M	77	58.8	1384	490
4118	Snowflake.....	32.8	1 3/8	M	91	46.3	1314	431

Table 12.—Varieties of cotton tested in 1921.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
5992	Kasch.....	38.5	7/8	S M	67	77.3	504	194
5995	Lone Star.....	36.7	1 1/8	S M	64	69.7	504	185
5993	Rowden.....	33.1	1 1/16	S M	62	67.4	544	180
5986	Lone Star.....	33.0	1 1/8	M	76	87.8	542	179
5987	Durango.....	30.2	1 3/16	S M	94	76.7	546	165
5989	Mebane.....	37.0	15/16	M	67	70.7	435	161
5984	Belton.....	34.5	1 1/8	S M	64	65.1	452	156
5990	Truitt.....	35.0	15/16	S M	76	83.3	431	151
5994	Bennett's Lone Star.....	37.3	1 1/16	S M	70	79.5	375	140
5988	Acala.....	33.4	1 1/8	S M	80	84.8	395	132

Table 13.—Varieties of cotton tested in 1922.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
6573	Kasch.....	37.5	7/8	S M	70	49.1	987	370
6563	Mebane.....	36.3	15/16	M	66	49.1	893	324
6572	Bennett's Lone Star.....	37.7	7/8	S M	67	51.0	809	305
6565	Lone Star.....	36.7	1	S M	64	42.0	812	298
6566	Truitt.....	32.9	3/4	M	70	55.8	845	278
6570	Lone Star.....	34.2	1	M	75	36.0	878	269
5984	Belton.....	32.0	3/4	S M	74	40.7	750	240
6571	Acala.....	35.0	1	S M	83	42.5	724	239
6574	Rowden.....	31.9	7/8	M	80	49.4	746	238
6569	Hallmark.....	30.3	1 1/8	S M	89	54.3	716	217
804	Mebane.....	31.4	15/16	M	83	49.9	688	216
6564	Durango.....	29.9	1 1/8	S M	107	44.3	639	191
6575	Snowflake.....	26.0	1 1/4	M	98	36.6	688	179

Table 14.—Varieties of cotton tested in 1923.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
6786	New Boykin.....	35.8	7/8	S M	72	80.0	1955	700
5984	Belton No. 12.....	36.5	15/16	S M	59	76.7	1693	618
3665	Buckelew Big Boll.....	34.8	1 1/16	M	57	62.8	1759	612
6807	Cliett Superior.....	38.0	1	S M	63	77.9	1550	589
6803	Truitt.....	32.5	1	G M	66	86.5	1748	568
6780	Mebane.....	37.4	1	S M	60	66.0	1409	527
6782	Belton.....	33.8	15/16	M	64	82.9	1515	512
6783	Lone Star.....	35.0	1 1/16	S G M	63	71.2	1435	501
6796	Lightning Express.....	28.0	1	S M	93	93.3	1761	493
6784	Bennett's Lone Star.....	37.2	15/16	S M	58	77.6	1151	428
6797	Rowden.....	32.3	15/16	S M	69	77.7	1266	409
6781	Acala.....	29.6	1	M	68	61.4	1328	393
6802	Hallmark.....	25.3	1 1/16	M	85	76.6	1462	370



Table 15.—Varieties of cotton tested in 1924.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
7388	New Boykin.....	36.2	15/16	M	70	81.0	1144	414
7386	Lone Star.....	37.5	1 1/16	M	65	66.6	992	372
7385	Kasch.....	39.5	1 1/32	M	58	72.2	929	367
7384	Lankart (Star).....	39.2	1	M	59	68.8	888	348
7387	Sunshine.....	32.4	1	M	65	70.0	1049	340
7381	Acala.....	31.7	1 1/16	M	78	72.7	1063	337
7408	Mebane.....	35.5	1	M	65	72.2	944	335
7409	Truitt.....	35.9	1	M	71	76.5	916	329
7383	Startex.....	31.7	1	M	74	72.2	1013	321
7390	Durango.....	34.2	1 1/8	M	96	80.0	857	293
5184	Belton 91.....	34.1	1	S M	66	66.6	845	288
7391	Rowden.....	32.5	1	M	70	71.4	834	271
7389	Snowflake.....	28.8	1 3/16	M	91	64.7	934	269

Table 16.—Varieties of cotton tested in 1925.

T. S. No.	Variety	No. bolls to the pound	Lint		Percentage of total crop in first picking	Acre yield, pounds	
			Percentage	Length inches		Seed cotton	Lint
7858	Kasch.....	84	41.7	3/4	71.4	355	148
7848	Cliett.....	95	39.3	1	72.7	372	146
7859	Mebane.....	92	40.8	7/8	69.3	338	138
7864	Qualla.....	98	42.2	1	80.1	310	131
7865	Lankart (Star).....	77	41.9	7/8	81.0	305	128
7861	Harper.....	97	40.3	1	75.2	318	128
7866	Anton.....	98	37.4	1	74.9	334	125
7852	New Boykin.....	109	37.3	15/16	64.1	327	122
7851	Lone Star.....	97	38.9	1 1/16	62.9	270	105
7854	Acala.....	138	33.1	1 1/16	64.0	314	104
7853	Truitt.....	114	36.9	1	70.7	268	99
5984	Belton 91.....	88	35.1	1	53.1	271	95
7857	Sunshine.....	99	30.9	15/16	61.6	304	94
7855	Rowden.....	95	34.6	7/8	49.0	263	91
7856	Durango.....	186	29.8	1 1/8	62.1	265	79
7849	Snowflake.....	131	28.0	1 1/8	79.8	282	79

Table 17.—Varieties of cotton tested in 1926.

T. S. No.	Variety	No. bolls to the pound	Lint		Percentage of total crop in first picking	Acre yield, pounds	
			Percentage	Length inches		Seed cotton	Lint
8600	Qualla.....	63	40.4	31/32	47.7	5821	519
8585	Kasch.....	71	37.7	31/32	55.2	1361	512
8596	Sunshine.....	66	35.8	15/16	53.2	1366	489
8607	Harper.....	68	39.6	15/16	42.3	1227	486
8599	New Boykin.....	75	36.5	15/16	41.1	1329	485
8610	Truitt.....	71	36.4	29/32	62.2	1316	479
8609	Acala.....	81	34.8	1 1/32	48.4	1374	478
8591	Anton.....	71	37.9	29/32	51.4	1256	476
8593	Lankart.....	60	40.2	15/16	49.5	1179	474
8588	Mebane.....	63	39.2	31/32	47.0	1151	451
8590	Lone Star.....	73	37.1	31/32	56.1	1167	433
5984	Belton 91.....	64	34.6	15/16	42.2	1162	402
8487	Westex.....	95	34.6	7/8	75.2	1075	372
8614	Durango.....	96	32.7	1 1/16	66.8	1131	370
8613	Rowden.....	67	35.9	31/32	46.4	1017	365
8595	Snowflake.....	94	29.0	1 5/32	37.9	1245	361
8584	Cliett.....	65	40.7	31/32	39.3	848	345

Table 18.—Varieties of cotton tested in 1927.

T. S. No.	Variety	Lint			No. bolls to the pound	Percentage of total crop in first picking	Acre yield, pounds	
		Percent	Length inches	Grade			Seed cotton	Lint
9614	Kasch.....	37.4	1 1/32	M	71	72.7	546	204
9608	New Boykin.....	34.3	1	M	81	72.2	591	203
9670	Buckner.....	35.4	1 1/16	M	69	56.4	559	198
9615	Truitt.....	33.3	1	M	79	70.0	580	193
9602	Anton.....	34.6	1 1/32	M	68	76.6	557	193
9604	Harper.....	38.1	1	S M	69	66.3	504	192
9600	Delfos 6102.....	30.1	1 3/16	M	108	87.4	637	192
9607	Cliett Superior.....	39.0	1	M	68	71.6	485	189
9612	Sunshine.....	30.6	1	M	71	72.3	601	184
5984	Belton 91.....	34.7	1	M	68	57.5	518	180
9585	Kasch.....	37.5	1	M	72	72.3	480	180
9601	Qualla.....	38.0	1	M	70	71.4	474	180
9616	Acala.....	30.2	1 5/32	M	85	72.6	579	175
9611	Mebane.....	37.2	1 1/32	M	71	57.8	462	172
9650	Porter.....	34.1	1	M	73	67.2	505	172
9618	Lone Star.....	35.9	1 1/32	M	68	53.2	463	166
9586	Bennett's Lone Star.....	35.4	1 1/32	M	72	60.2	463	164
9605	Lankart.....	36.7	1 1/16	M	66	51.6	422	155
9617	Rowden.....	32.3	1 1/32	M	74	63.3	467	151

### SUMMARY OF YIELDS OF LINT

The adaptability of 268 varieties and strains of cotton was investigated at Substation No. 5, Temple, from 1912 to 1927, inclusive. Only 19 of these varieties were included in the tests for two or more years after 1919. The greater number of this rather exhaustive list of cottons were investigated during the earlier years. Many varieties were grown only one season and, since the performance of a variety for any single year seldom affords information from which a rating can be made, no attempt has been made to classify these varieties. However, the inferiority of some of the varieties dropped after one year's trial was readily evident. Detailed and complete records were obtained for 102 varieties and strains. All of these were grown two or more years, although the entire list was not under test during any one season. Certain groups of varieties were tested during the same years and these afford comparable records for comparisons between members of the same group. A few varieties were grown every year throughout the entire period and may be utilized as standards through which other varieties may be studied. Since a direct comparison of an individual variety with each of the others is not possible, due to lack of comparable data, a comparison through a common base is advisable. In making the initial classification of this long list of varieties, such a method has been used and the results are presented in Table 19.

### Methods Used in Rating the Varieties on the Basis of Yield of Lint

In using such a method, the selection of the base is very important. Upon inspection of the year-by-year tables in the earlier part of this Bulletin, it will be found that Mebane, Lone Star, and Rowden from one

Table 19.—Yield in pounds of lint cotton per acre and initial rating of cotton varieties tested, 1912-1927.

Variety	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	No. years grown	Per- centage rating
Mebane base.....	300	271	299	268	354	228	137	294	569	161	324	527	335	138	451	172	16	107
Lonestar base.....	343	397	278	272	354	213	96	263	534	185	298	501	372	105	433	166	16	104
Rowden base.....	256	303	192	206	298	210	103	290	518	180	238	409	271	91	365	151	16	89
Average base.....	300	324	256	249	335	217	112	282	540	175	287	479	326	111	416	163	16	100
Anton.....														125	476	193	3	115
Harper.....														128	486	192	3	117
Qualla.....														131	519	180	3	118
Lankart.....													348	128	474	155	4	108
Sunshine.....													340	94	489	184	4	105
Cllett's Superior.....												589		146	345	189	4	114
New Boykin.....					440		100	181				700	414	122	485	203	8	114
Buckelew Big Boll.....								201				612					2	100
Hallmark.....											217	370					2	77
Bennett's Lonestar.....	277							184	532	140	305	428				164	7	90
Belton.....			217	208				248	537	156	240	618	288	95	402	180	11	94
Acala.....						197	144	218	490	132	239	393	337	104	478	175	11	95
Kasch.....						254	125	326	559	194	370		367	148	512	204	10	118
Durango.....	241	192	174	212		166	71	285		165	191		293	79	370		12	79
Snowflake.....		162	200			134	93	157	431		179		269	79	361		10	71
Truitt.....	231	355	301	246				262		151	278	568	329	99	479	193	12	102
Mebane (A. D.).....	300	176						294	569	161	324	527	335	138	451	172	11	102
Mebane 725.....		365	299	268	354	228	137										6	112
Mebane (Ferguson).....				267		236	137	249									4	107
Mebane 804.....					335			239			216						3	87
Mebane 3002.....						227	142										2	116
Mebane 3006.....						191	140										2	107
Mebane 165.....		400	231														2	107
Mebane 128.....	279	412															2	110
Lonestar (Saunders).....	343	397	278					297	534	185	298	501	372	105	433		11	107
Lonestar 1378.....				272	354	213	96	228									5	96
Lonestar (O-H).....																166	1	102
Lonestar 942.....	322	452	251	236													4	110
Rowden (Bros.).....	294	303			298			290	518	180	238	409	271	91	365	151	12	91
Rowden 77.....	218		192														2	74
Rowden 1275.....				206	340												2	91
Rowden 3003.....						210	103										2	95
Rowden 3057.....	299	387			267	201	86										5	94

VARIETIES OF COTTON FOR THE BLACKLANDS OF CENTRAL TEXAS

Table 19-A.—Yield in pounds of lint cotton per acre, and initial rating of cotton varieties, 1912-1913

Variety	1912	1913	1914	1915	1916	1917	1918	1919	No. years grown	Per- centage rating
Cleveland Big Boll.....	261	304	250	206	327	175	90	159	8	85
Union Big Boll.....	277	481	262		296	174	104	268	7	100
Mortgage Lifter.....	226	437	290	227	347	195	95		7	99
Toole.....	239	302	298	204		214	138		6	99
Simpkin's Prolific.....		398	254	218	222	172	112		6	93
Bank Account.....	220	322	255			165	96		5	87
Half and Half.....		312	241			219	119	78	5	85
Jackson.....	259	406				195		294	4	101
Hawkin's.....		278	247		286	172			4	87
Hite's Prolific.....		220	241			181	123		4	89
Broadwell's Double-Jointed.....		238	170			162	79		4	71
Hastings Upright.....			247	195	241		74		4	78
Chisholm.....			193			234	111	211	4	89
Ferguson Round Nose.....				270	298	253		281	4	104
Trice.....		252				118	70		3	65
Harvell.....		365				256		344	3	118
Moneymaker.....				272		196	98		3	96
Allen's Express.....					195	120	86		3	63
Early King.....					215	134	95		3	70
Ideal.....					297		102		2	90
Matchless Early.....					279	199	118		3	93
Sure Crop.....					304	174	116		3	91
Express.....						142	84	206	3	71
Holdon.....						160	114	346	3	100
Webb.....						220	120	250	3	99
Willis.....					391			223	2	98
Wannamaker.....					270		95		2	83
Improved Champion.....						226	141		2	115
Mexican Big Boll.....						129	112		2	80
Texas Progress.....						198	139		2	108
Vandiver's Heavy Fruiter.....						180	96		2	85
Hartsville No. 9.....	227	264	191	160	206				5	71
Virgatus.....	310	430		229					3	109
Edgeworth.....	262	268	224						3	86
Hendricks.....	244	334	223						3	90
Crowder.....	292	373	219						3	99
Floradora.....	225	237	180						3	73
Cook's Long Staple.....		240				210	94		3	90
Robert's.....		312	300	273					3	108
Texas Wood.....		335	284	259					3	106
Huffman.....		355	303	250					3	109
Texas Oak.....		353	223	229					3	96
Willet's Red Leaf.....		166	124	118					3	49
Long Staple.....		255	191		211				3	73
Peterkin.....		188	195			145			3	67
Chandler Prolific.....	259	217							2	77
McKelson Big Boll.....	229	131							2	58
Dixie 22.....	248	362							2	98
Bradbury.....	300	360							2	106
Selection No. 1.....	331	312							2	103
Saunders's Triumph.....	266	410							2	108
Webber 169.....	188	275							2	72
Cook's Big Boll.....		227	229	188					3	80
Burn's Long Staple.....		239	181						2	73
Culpepper's Big Boll.....		296	260						2	97
Cannon's World Skinner.....		293	254						2	95
Bohler Triple Jointed.....		376	231						2	103
Dongola Big Boll.....		290	218						2	88
Allen's Long Staple.....		206	163						2	64
Bolivia Long Staple.....		107	160						2	64
Sunflower Long Staple.....		140	141						2	49
Black Rattler.....		202	128						2	56
Haaga's Long Staple.....		227	179						2	70
Foster's Long Staple.....		258	172						2	74
Webber 445.....		183	207						2	68
Selection No. 4.....	323	272				142			2	96
Simpkin's Ideal.....		245							2	71
Columbia.....			327	200					2	104
Columbia Big Boll.....			246	230					2	94

Table 20.—Superior yielding cotton varieties classified as to period of test. See tables 19 and 19-A.

Relative yield*	New	Relative yield*	Standard	Relative yield*	Old
	Variety name		Variety name		Variety name
118	Qualla	118	Kasch	118	Harvell
117	Harper	116	Mebane 3002	115	Improved Champion
115	Anton	112	Mebane	109	Huffman
114	Cliett's Superior	110	Mebane 128	109	Virgatus
114	New Boykin	110	Lonestar 942	108	Texas Progress
108	Lankart	107	Mebane (Ferguson)	108	Robert's
105	Sunshine	107	Mebane 3006	108	Saunders' Triumph
		107	Mebane 165	107	Mullins
		107	Lonestar (Saunders')	106	Bradbury
		102	Mebane (A. D.)	106	Texas Wood
		102	Lonestar (O. H.)	104	Ferguson Round Nose
		102	Truitt	103	Bohler Triple Jointed
				103	Selection No. 1
				101	Jackson's
				100	Buckelew Big Boll
				100	Union Big Boll
				100	Holdon

\*Pounds of lint per 100 pounds produced on average by Mebane, Lonestar, and Rowden.

source or another were grown each year from 1912 to 1927, inclusive. These were the only varieties for which yields were obtained each year; so they form the most satisfactory basis through which to compare all other varieties. It would have been desirable to use data on these three varieties limited to a single source of seed for each. This, however, was not possible; so the range of sources was reduced to the minimum. On this basis the yields of Mebane were secured from plats planted to seed secured in some years from A. D. Mebane and in others from S. H. Cater. The seed sources of Lone Star used in making up this base were from D. A. Saunders, A. M. Ferguson, and O'Conner-Hasselfield; while the Rowden seed was from Rowden Brothers, R. H. Norwood, and the Texas Seed Breeding Farm. For each of these varieties, where more than one of the sources was used in a single year, the average was obtained.

Thus a separate base yield for each of the three base varieties was available for each year from 1912 to 1927, inclusive. The annual average of the base yield was used as a standard to compare the yields of any and all varieties for comparable years. By these comparisons the annual yields of each variety in pounds of lint per acre were converted into the pounds of lint per 100 pounds of the base. The average of these relative yields was taken as the rating of the variety. Thus each variety was classified on the basis of the average number of pounds of lint it made for every 100 pounds the base varieties made on the average. This classification is presented in Table 19.

The first column of Table 19 gives the names of the varieties tested. At the head of the list are given the three varieties entering into the base. The varieties in the body of the table are given in the order of the period of years in which each was most frequently grown. The first group of varieties are those recently included in the test, and in general



were those studied from 1925 to 1927, inclusive, although there were varieties retained from previous years. The next group represents the varieties introduced into the test from 1920 to 1924, inclusive, and also includes the varieties that were tested in previous years. The third group of varieties listed are those grown most frequently from 1916 to 1919, inclusive, and the last group includes varieties tested prior to 1916.

In the columns at the right of the variety name, the yield in pounds of lint cotton per acre is given in the appropriate columns by years. In the last two columns of Table 19 is shown the number of years each variety was tested and its rating. This rating is quoted in pounds of lint produced by the variety in question per 100 pounds of lint produced on the average by the three base varieties. The reliability of any individual rating is to be judged by the number of years upon which it is based. Obviously, the ratings based on only two years are not as dependable as those obtained from ten years' results. From an inspection of Table 19, the relative yielding ability of any of the varieties listed may be ascertained by referring to the last column. Those varieties yielding 100 or more pounds of lint per 100 pounds for the base varieties may be classed as superior yielders. On the other hand, it is very unlikely that those varieties that failed to produce as much lint as the base varieties would prove to be very productive even under more extensive and comparable tests. The rating given the superior-yielding varieties is not to be considered as final, but rather as a classification for more refined comparisons.

The varieties that yielded as well or better than the base varieties have been segregated out in Table 20. They may be classified as old, standard, or new varieties according to the years in which they were tested. Varieties that were tested for a relatively short period in the earlier years are referred to as old varieties. Varieties that were tested throughout most of the entire 16-year period and are still under test are termed standards; while those included only during the last three to five years are called new varieties.

In the case of the superior yielding new and standard varieties, a more refined and accurate method of comparison than that used in presenting Tables 19 and 20 is available. This comparison is given in Table 21 and is limited to a treatment of the 11 superior-yielding varieties and strains developed from Lone Star and Mebane Triumph. This table was constructed by making direct comparison of every variety with each of the other ten. The yields of Kasch, for example, were compared with those of Cliett Superior for the years that these two varieties were grown under comparable conditions, and with each of the other varieties in like manner, only comparable yields being used in each case. For convenience in interpretation, the relative yielding ability of each of the varieties listed vertically in the table, has been quoted in terms of each variety listed horizontally. Thus, for every 100 pounds of lint cotton that Cliett Superior, Mebane, Truitt, Lone Star, Sunshine, Anton, Harper, New Boykin, and Qualla produced on the average, Kasch also



Table 22.—Earliness.

Variety	Source of seed	Percentage of the total crop harvested at first picking											
		1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
		%	%	%	%	%	%	%	%	%	%	%	%
Acala.....	F. D. Watson, Garland, Texas.....				96.8	58.8	84.8	42.5	61.4	72.7	64.0	48.4	72.6
Acala.....	John D. Rogers, Allenfarm, Texas.....												
Allen's Express.....	Chris Reuter, New Orleans, La.....	100	87.5	76.5									
Anton.....	F. Alves & J. W. Karbach Co., Lockhart, Texas.....										74.9	51.4	76.6
Belton.....	Texas Exp. Station, Temple, Texas.....				95.3	57.8	65.1	40.7	76.7	66.6	53.1	42.2	57.5
Bennett's Lone Star.....	R. L. Bennett & Sons, Dallas, Texas.....					55.7	79.5	51.0	77.6				60.2
Cliett Superior.....	San Marcos Valley Seed Farms, San Marcos, Texas.....								77.9		72.7	39.3	71.6
Chisholm.....	Texas Seed Breeding Farms, Sherman, Texas.....		84.9	60.4	97.3								
Cleveland Big Boll.....	Chris Reuter, New Orleans, La.....	95.7	89.6	70.1	94.5								
Express.....	N. L. Willet, Augusta, Ga.....		91.9	72.4	91.6								
Early King.....	Chris Reuter, New Orleans, La.....	100	90.0	69.5									
Half and Half.....	N. L. Willet, Augusta, Ga.....		78.5	55.4	85.9								
Holdon.....	W. M. Parks, Clarksville, Texas.....		83.3	50.4	97.6								
Harper.....	Robert M. Harper, Martindale, Texas.....										75.2	42.3	66.3
Ideal.....	W. A. Simpkins, Raleigh, N. C.....	100	96.0	67.7									
Kasch.....	Ed Kasch, San Marcos, Texas.....		78.0	65.8	96.2	53.1	77.3	49.1		72.2	71.4	55.2	72.7
Lone Star.....	Ferguson Seed Farms, Sherman, Texas.....	83.0	88.6	53.6	94.6								
Lone Star.....	D. A. Saunders, Greenville, Texas.....				98.0	42.4	69.7	42.0	71.2	66.6	62.9	56.1	
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....									68.8	81.0	49.5	51.6
Mebane Triumph 406.....	Ferguson Seed Farms, Sherman, Texas.....		86.4	51.6	96.2								
Mebane.....	A. D. Mebane, Lockhart, Texas.....				91.1	65.8	70.7	49.1	66.0	72.2	69.3	47.0	57.8
Matchless Early.....	H. G. Hastings, Atlanta, Ga.....	100	81.9	79.5									
Mortgage Lifter.....	H. G. Hastings, Atlanta, Ga.....	92.6	64.1	69.6									
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....			62.0	95.0				80.0	81.0	64.1	41.1	72.2
Qualla.....	H. Conrads, San Marcos, Texas.....										80.1	47.7	71.4
Rowden.....	Rowden Bros., Wills Point, Texas.....	81.4			94.1	58.4	67.4	49.4	77.7	71.4	49.0	46.4	63.3
Sure Crop.....	H. G. Hastings, Atlanta, Ga.....	93.2	85.9	67.2									
Simpkins Prolific.....	Chris Reuter, New Orleans, La.....	100	94.8	79.5									
Snowflake.....	John C. McLernon, Clarksville, Texas.....		56.0	39.2	74.2	46.3		36.6		64.7	79.8	37.9	
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....									70.0	61.6	53.2	72.3
Truitt.....	Truitt Seed Company, Ennis, Texas.....				92.3		83.3	55.8	86.5	76.5	70.7	62.2	70.0
Union Big Boll.....	H. G. Hastings, Atlanta, Ga.....	92.9	81.3	70.6	98.1								
Webb.....	Texas Seed Breeding Farms, Sherman, Texas.....		80.6	62.2	88.6								

Table 23.—Earliness. Summary of table 22.

Variety	Source of seed	Percentage of total crop harvested at first picking Average for			
		8 years	4 years	3 years	3 years
		1919-22; 1924-27	1924-27	1924-26	1925-27
Acala.....	John D. Rogers, Allenfarm, Texas.....		64.4	61.7	61.7
Anton.....	F. Alves & J. W. Karbach, Lockhart, Texas.....				67.6
Belton.....	Texas Exp. Station, Temple, Texas.....	59.8	54.8	54.0	50.9
Cliett Superior.....	San Marcos Valley Seed Farms, San Marcos, Tex.....				61.2
Harper.....	Robert M. Harper, Martindale, Texas.....				61.3
Kasch.....	Ed Kasch, San Marcos, Texas.....	68.4	67.9	66.3	66.4
Lone Star.....	D. A. Saunders, Greenville, Texas.....			61.9	
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....		62.7	66.4	60.7
Mebane.....	A. D. Mebane, Lockhart, Texas.....	65.4	61.6	62.8	58.0
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....		64.6	62.1	59.1
Qualla.....	H. Conrads, San Marcos, Texas.....				66.4
Rowden.....	Rowden Bros., Wills Point, Texas.....	62.4	57.5	55.6	52.9
Snowflake.....	John C. McLernon, Clarksville, Texas.....			60.8	
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....		64.3	61.6	62.4
Truitt.....	Truitt Seed Co., Ennis, Texas.....		69.8	69.8	67.6

produced the number of pounds entered in the column below each of these varieties. It will be seen that Kasch on the average yielded 127 pounds of lint cotton for each 100 pounds produced by Cliett Superior, a variety grown under comparable conditions during the years of 1925, 1926, and 1927.

In the last column of Table 21 it is seen that Kasch was superior to all the other 10 varieties. Qualla was excelled only by Kasch. Eight varieties were equaled or excelled by New Boykin; seven by Harper; six by Anton; four by Lankart; two by Lone Star; and two by Truitt. Mebane was better than Cliett Superior only, and Cliett Superior was the lowest-yielding variety of the eleven. In the table, Cliett Superior is shown to have made a higher average yield than Lone Star for the period of years in which these two varieties were compared, but a single high yield by Cliett Superior in 1923 obviously produced this apparent variation from the ratings produced by the basal comparisons and, furthermore, it is noticeable that in two other sets of comparisons Cliett Superior was excelled by Truitt and Mebane, which were in turn excelled by Lone Star.

Unfortunately, the old varieties cannot be included in these more refined classifications because data for comparable years are not available. Of the old varieties that yielded as good or better than the base varieties, it can only be said that their elimination from the tests was not justified on the basis of yield of lint cotton per acre and where seed is available they should be retested.

### EARLINESS OF MATURITY

Earliness is based on the percentage of the total crop harvested at the first picking. Data on the earliness of the varieties tested from 1916 to 1927, inclusive, are presented in Tables 22 and 23.

Table 24.—Percentage of lint.

Variety	Source of seed	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
		%	%	%	%	%	%	%	%	%	%	%	%
Acala	F. D. Watson, Garland, Texas				35.5	35.4	33.4						
Acala	John D. Rogers, Allenfarm, Texas							33.0	29.6	31.7	33.1	34.8	30.2
Allen Express	Chris Reuter, New Orleans, La.	28.0	24.3	22.8						.....			
Anton	F. Alves & J. W. Karbach Co., Lockhart, Texas										37.4	37.9	34.6
Belton	Texas Experiment Station, Temple, Texas				34.1	38.2	34.5	32.0	36.5	34.1	35.1	34.6	34.7
Bennett's Lone Star	R. L. Bennett & Sons, Dallas, Texas					37.9	37.3	37.7	37.2				35.4
Cliett Superior	San Marcos Valley Seed Farms, San Marcos, Texas								38.0		39.3	40.7	39.0
Chisholm	Texas Seed Breeding Farms, Sherman, Texas		35.0	32.1	34.1								
Cleveland Big Boll	Chris Reuter, New Orleans, La.	34.0	33.0	28.1	35.5								
Express	N. L. Willet, Augusta, Ga.		22.7	24.3	31.0								
Early King	Chris Reuter, New Orleans, La.	31.0	31.6	28.7									
Half and Half	N. L. Willet, Augusta, Ga.		35.9	31.3	35.7								
Holdon	W. M. Parks, Clarksville, Texas		35.1	32.0	34.2								
Harper	Robert M. Harper, Martindale, Texas										40.3	39.6	38.1
Ideal	W. A. Simpkins, Raleigh, N. C.	37.0	33.0	30.1									
Kasch	Ed Kasch, San Marcos, Texas		43.1	38.0	40.0	40.1	38.5	37.5		39.5	41.7	37.7	37.4
Lone Star	Ferguson Seed Farms, Sherman, Texas	34.0	36.8	34.2	36.3								
Lone Star	D. A. Saunders, Greenville, Texas				38.6	37.8	36.7	36.7	35.0	37.5	38.9	37.1	
Lankart	Lankart-Bred Seed Farms, Waco, Texas										39.2	41.9	40.2
Mebane	A. D. Mebane, Lockhart, Texas				37.7	39.6	37.0	36.3	37.4	35.5	40.8	39.2	37.2
Mebane Triumph 406	Ferguson Seed Farms, Sherman, Texas		36.0	35.2	37.3								
Matchless Early	H. G. Hastings, Atlanta, Ga.	31.0	34.0	29.7									
Mortgage Lifter	H. G. Hastings, Atlanta, Ga.	40.0	34.8	30.2									
New Boykin	Ferguson Seed Farms, Sherman, Texas			35.9	38.5				35.8	36.2	37.3	36.5	34.3
Qualla	H. Conrads, San Marcos, Texas										42.2	40.4	38.0
Rowden	Rowden Brothers, Wills Point, Texas	37.0			35.8	36.8	33.1	31.9	32.3	32.5	34.6	35.9	32.3
Sure Crop	H. G. Hastings, Atlanta, Ga.	34.0	33.8	33.8									
Simpkins Prolific	Chris Reuter, New Orleans, La.	31.0	31.0	30.9									
Snowflake	John C. McLernon, Clarksville, Texas		26.2	23.6	29.0	32.8		26.0		28.8	28.0	29.0	
Sunshine	J. W. Davidson & Co., McKinney, Texas										32.4	30.9	35.8
Truitt	Truitt Seed Co., Ennis, Texas				30.7		35.0	32.9	32.5	35.9	36.9	36.4	33.3
Union Big Boll	H. G. Hastings, Atlanta, Ga.	31.0	31.3	29.1	33.6								
Webb	Texas Seed Breeding Farms, Sherman, Texas		34.5	31.7	35.6								



Table 25.—Percentage of lint. Summary of table 24.

Variety	Source of seed	Average for			
		8 years	4 years	3 years	3 years
		1919-22- 1924-27 Percent	1924-27 Percent	1924-26 Percent	1925-27 Percent
Acala.....	John D. Rogers, Allenfarm, Texas.....		32.4	33.2	32.7
Anton.....	F. Alves & J. W. Karbach Co., Lockhart, Texas.....				36.6
Belton.....	Texas Exp. Station, Temple, Texas.....	34.7	34.6	34.6	34.8
Cliett Superior.....	San Marcos Valley Seed Farms, San Marcos, Tex.....				39.7
Harper.....	Robert M. Harper, Martindale, Texas.....				39.3
Kasch.....	Ed Kasch, San Marcos, Texas.....	39.0	39.1	39.6	38.9
Lone Star.....	D. A. Saunders, Greenville, Texas.....			37.8	
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....		39.5	40.4	39.6
Mebane.....	A. D. Mebane, Lockhart, Texas.....	37.9	38.2	38.5	39.1
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....		36.1	36.7	36.0
Qualla.....	H. Conrads, San Marcos, Texas.....				40.2
Rowden.....	Rowden Bros., Willis Point, Texas.....	34.1	33.8	34.3	34.3
Snowflake.....	John McLernon, Clarksville, Texas.....			28.6	
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....		32.4	33.0	32.4
Truitt.....	Truitt Seed Co., Ennis, Texas.....		35.6	36.4	35.5

For the eight years, 1919 to 1927, exclusive of 1923, Kasch was the earliest variety grown continuously for this period, and was followed closely by Mebane.

Truitt was the earliest-maturing variety tested for the four years, 1924 to 1927, and also during the three years, 1924 to 1926. Kasch ranked second in earliness during this time. Truitt tied with Anton for first place for the three years, 1925 to 1927. Kasch and Qualla, which tied for second place in earliness during the three years, 1925 to 1927, were almost as early as Truitt and Anton.

Sunshine, Acala, Harper, Cliett Superior, Lankart, and New Boykin are also relatively early-maturing varieties.

Those varieties which mature their crops of cotton early have generally been the most profitable ones for the Blackland section of Central Texas.

#### PERCENTAGE OF LINT

Data on the percentage of lint or gin turn-out of the varieties tested from 1916 to 1927 are given in Tables 24 and 25. The percentage of lint was somewhat variable from year to year in the case of some of the varieties, while in others it was comparatively stable. Bennett's Lone Star, Cliett Superior, and Harper were quite uniform from year to year in percentage of lint.

Kasch had the highest average percentage of lint, 39.0, for the eight years, 1919 to 1922 and 1924 to 1927; and was second during the four years, 1924 to 1927, and during the three years, 1924 to 1926.

Lankart had the highest average percentage of lint for the four years, 1924 to 1927, which was 39.5 per cent; and for the three years, 1924 to 1926, which was 40.4 per cent. This variety also ranked third in percentage of lint in the three-year average, 1925 to 1927.

Qualla had an average of 40.2 per cent lint for the three years, 1925

Table 26.—Length of lint.

Variety	Source of seed	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
		Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
Acala	F.D. Watson, Garland, Texas				1 3/16	1 1/8	1 1/8						
Acala	John D. Rogers, Allenfarm, Texas							1	1	1 1/16	1 1/16	1 1/32	1 5/32
Allen's Express	Chris Reuter, New Orleans, La.	13/16	1 1/16	1 1/8									
Anton	F. Alves & J. W. Karbach Co., Lockhart, Texas				1 1/8	1	1 1/8	3/4	15/16	1	1	29/32	1 1/32
Belton	Texas Experiment Station, Temple, Texas						7/8	1 1/16	7/8	15/16		15/16	1 1/32
Bennett's Lone Star	R. L. Bennett & Sons, Dallas, Texas										1	31/32	1
Cliett Superior	San Marcos Valley Seed Farms, San Marcos, Texas								1				
Chisholm	Texas Seed Breeding Farms, Sherman, Texas		7/8	1	7/8								
Cleveland Big Boll	Chris Reuter, New Orleans, La.	3/4	3/4	7/8	3/4								
Express	N. L. Willet, Augusta, Ga.		1 1/16	1 1/16	1 1/8								
Early King	Chris Reuter, New Orleans, La.	10/16	3/4	3/4									
Half and Half	N. L. Willet, Augusta, Ga.		3/4	5/8	1								
Holdon	W. M. Parks, Clarksville, Texas		3/4	1 1/16	1 1/16								
Harper	Robert M. Harper, Martindale, Texas										1	15/16	1
Ideal	W. A. Simpkins, Raleigh, N. C.	3/4	3/4	1/2									
Kasch	Ed Kasch, San Marcos, Texas		7/8	7/8	7/8	7/8	7/8	7/8		1 1/32	3/4	31/32	1 1/32
Lone Star	Ferguson Seed Farms, Sherman, Texas	13/16	7/8	1 1/16	1								
Lone Star	D. A. Saunders, Greenville, Texas				1 1/16	7/8	1 1/8	1	1 1/16	1 1/16	1 1/16	31/32	1 1/16
Lankart	Lankart-Bred Seed Farms, Waco, Texas									1	7/8	15/16	1 1/16
Mebane Triumph 406	Ferguson Seed Farms, Sherman, Texas		3/4	15/16	7/8								
Mebane	A. D. Mebane, Lockhart, Texas				15/16	7/8	15/16	15/16	1	1	7/8	31/32	1 1/32
Matchless Early	H. G. Hastings, Atlanta, Ga.	11/16	3/4	1/2									
Mortgage Lifter	H. G. Hastings, Atlanta, Ga.	11/16	1/2	1/2									
New Boykin	Ferguson Seed Farms, Sherman, Texas			3/4	15/16				7/8	15/16	15/16	15/16	1
Qualla	H. Conrads, San Marcos, Texas										1	31/32	1
Rowden	Rowden Bros., Wills Point, Texas	13/16			1 1/8	1	1 1/16	7/8	15/16	1	7/8	31/32	1 1/32
Sure Crop	H. G. Hastings, Atlanta, Ga.	3/4	3/4	5/8									
Simpkin's Prolific	Chris Reuter, New Orleans, La.	10/16	7/8	1/2									
Snowflake	John C. McLernon, Clarksville, Texas		1 3/16	1 5/16	1 7/16	1 3/8		1 1/4		1 3/16	1 1/8	1 5/32	
Sunshine	J. W. Davidson & Co., McKinney, Texas									1	1 3/16	15/16	1
Truitt	Truitt Seed Co., Ennis, Texas				1 3/16		15/16	3/4	1	1	1	29/32	1
Union Big Boll	H. G. Hastings, Atlanta, Ga.	13/16	7/8	3/4	3/4								
Webb	Texas Seed Breeding Farms, Sherman, Texas		7/8	1 1/16	7/8								

Table 27.—Length of lint. Summary of table 26.

Variety	Source of seed	Average for			
		8 years	4 years	3 years	3 years
		1919-22; 1924-27	1924-27	1924-26	1925-27
		Inches	Inches	Inches	Inches
Acala.....	John D. Rogers, Allenfarm, Texas.....		1 3/32	1 1/16	1 3/32
Anton.....	F. Alves & J. W. Karbach, Lockhart, Texas.....				1 3/32
Belton.....	Texas Exp. Station, Temple, Texas.....	1	1	31/32	31/32
Cliett Superior...	San Marcos Valley Seed Farms, San Marcos, Tex.				1
Harper.....	Robert M. Harper, Martindale, Texas.....				31/32
Kasch.....	Ed Kasch, San Marcos, Texas.....	29/32	15/16	29/32	29/32
Lone Star.....	D. A. Saunders, Greenville, Texas.....			1 1/32	
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....		31/32	15/16	31/32
Mebane.....	A. D. Mebane, Lockhart, Texas.....	15/16	31/32	15/16	31/32
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....		15/16	15/16	31/32
Qualla.....	H. Conrads, San Marcos, Texas.....				1
Rowden.....	Rowden Bros., Wills Point, Texas.....	1	31/32	15/16	31/32
Snowflake.....	John C. McLernon, Clarksville, Texas.....			1 5/32	
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....		31/32	31/32	31/32
Truitt.....	Truitt Seed Co., Ennis, Texas.....		31/32	31/32	31/32

to 1927. It was followed closely by Cliett Superior with 39.7 per cent, Lankart with 39.6, Harper with 39.3, Mebane 39.1, and Kasch with 38.9 per cent. All of these varieties produced relatively large bolls, which were more or less storm-resistant; yet they were easy to pick.

### LENGTH OF LINT

The length of lint of all varieties grown during the 12 years, 1916 to 1927, inclusive, is given in Tables 26 and 27.

Cliett Superior, Harper, Lone Star, and Qualla showed less variation in the length of lint from year to year than the other varieties tested. Snowflake produced the longest lint, averaging 1 5/32 inches, which was also the most variable in length from year to year, ranging from 1 1/8 inches in 1925, an exceptionally dry year, to 1 7/16 inches in 1919, a favorable year for cotton production.

The length of lint of most of the varieties tested was 7/8 inch and longer, the lint being tenderable on future contracts and of good character. The higher-yielding varieties produced lint from 7/8 to 1 inch in length and were the more profitable varieties for the region.

Belton and Rowden produced lint averaging 1 inch in length for the eight years, 1919 to 1927, exclusive of 1923. Kasch and Mebane for this period produced lint 29/32 and 15/16 inch, respectively.

For the four years, 1924 to 1927, Acala produced the longest lint, 1 3/32 inches. The lint of Kasch and New Boykin measured 15/16-inch for this period, while the other varieties, except Belton and Acala, produced lint 31/32 inch.

Cliett Superior and Qualla each produced lint averaging 1 inch in length for the three years, 1925 to 1927. With the exception of Kasch and Acala, the other varieties grown during the three years produced lint 31/32 inch in length.

Table 28.—Size of boll measured in number per pound.

Variety	Source of seed	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Acala.....	F. D. Watson, Garland, Texas.....				85	77	80						
Acala.....	John D. Rogers, Allenfarm, Texas.....							83	68	78	138	81	85
Allen's Express.....	Chris Reuter, New Orleans, La.....	94	119	123									
Anton.....	F. Alves & J. W. Karbach Co., Lockhart, Texas.....										98	71	68
Belton.....	Texas Experiment Station, Temple, Texas.....				69	70	64	74	59	66	88	64	68
Bennett's Lone Star.....	R. L. Bennett & Sons, Dallas, Texas.....					72	70	67	58				72
Cliett Superior.....	San Marcos Valley Seed Farms, San Marcos, Texas.....								63		95	65	68
Chisholm.....	Texas Seed Breeding Farms, Sherman, Texas.....		76	68	68								
Cleveland Big Boll.....	Chris Reuter, New Orleans, La.....	100	103	84	87								
Express.....	N. L. Willet, Augusta, Ga.....		119	97	93								
Early King.....	Chris Reuter, New Orleans, La.....	107	107	100									
Half and Half.....	N. L. Willet, Augusta, Ga.....		119	100	82								
Holdon.....	W. M. Parks, Clarksville, Texas.....		76	71	73								
Harper.....	Robert M. Harper, Martindale, Texas.....										97	68	69
Ideal.....	W. A. Simpkins, Raleigh, N. C.....	123	119	107									
Kasch.....	Ed Kasch, San Marcos, Texas.....		73	65	70	69	67	70		58	84	71	71
Lone Star.....	Ferguson Seed Farms, Sherman, Texas.....	80	80	76	73								
Lone Star.....	D. A. Saunders, Greenville, Texas.....				70	73	64	64	63	65	97	73	
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....									59	77	60	66
Mebane Triumph 406.....	Ferguson Seed Farms, Inc., Sherman, Texas.....			78	71								
Mebane.....	A. D. Mebane, Lockhart, Texas.....				71	72	67	66	60	65	92	63	71
Matchless Early.....	H. G. Hastings, Atlanta, Ga.....	80	110	110									
Mortgage Lifter.....	H. G. Hastings, Atlanta, Ga.....	84	76	78									
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....			76	76				72	70	109	75	81
Qualla.....	H. Conrads, San Marcos, Texas.....										98	63	70
Rowden.....	Rowden Brothers, Wills Point, Texas.....	64			71	70	62	80	69	70	95	67	74
Sure Crop.....	H. G. Hastings, Atlanta, Ga.....	73	82	82									
Simpkins Prolific.....	Chris Reuter, New Orleans, La.....	100	123	107									
Snowflake.....	John C. McLernon, Clarksville, Texas.....		97	74	77	91		98		91	131	94	
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....									65	99	66	71
Truitt.....	Truitt Seed Company, Ennis, Texas.....				74		76	70	66	71	114	71	79
Union Big Boll.....	H. G. Hastings, Atlanta, Ga.....	84	80	91	88								
Webb.....	Texas Seed Breeding Farms, Sherman, Texas.....		78	78	83								

Table 29.—Size of boll. Summary of table 28.

Variety	Source of seed	Number of bolls to the pound. Average for			
		8 years	4 years	3 years	3 years
		1919-22; 1924-27	1924-27	1924-26	1925-27
Acala.....	John D. Rogers, Allenfarm, Texas.....		95	99	101
Anton.....	F. Alves & J. W. Karch, Lockhart, Texas.....				79
Belton.....	Texas Exp. Station, Temple, Texas.....	70	71	73	73
Cliett Superior...	San Marcos Valley Seed Farms, San Marcos, Texas.....				76
Harper.....	Robert M. Harper, Martindale, Texas.....				78
Kasch.....	Ed Kasch, San Marcos, Texas.....	70	71	71	75
Lone Star.....	D. A. Saunders, Greenville, Texas.....				78
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....		65	65	68
Mebane.....	A. D. Mebane, Lockhart, Texas.....	71	73	73	75
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....		84	85	88
Qualla.....	H. Conrads, San Marcos, Texas.....				77
Rowden.....	Rowden Bros., Wills Point, Texas.....	73	76	77	79
Snowflake.....	John C. McLernon, Clarksville, Texas.....			105	
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....		75	77	79
Truitt.....	Truitt Seed Co., Ennis, Texas.....		84	85	88

### SIZE OF BOLL

The size of boll of the better-yielding varieties grown during the 12 years, 1916 to 1927, inclusive, is shown in Tables 28 and 29. Differences in weather conditions caused considerable variation in the size of boll among the varieties in some years. For instance, in 1925, an extremely dry and unfavorable year for cotton, the bolls were much smaller than those produced in years when the rainfall was ample and growing conditions generally favorable for cotton.

Lankart produced on the average the largest bolls, 65 being required to weigh one pound of seed cotton. It was followed by Belton, Kasch, Mebane, and Cliett Superior, in the order named. Qualla, Harper, Anton, Sunshine, and Rowden produced medium-to-large-sized bolls, 77 to 79 being required to make a pound of seed cotton. Snowflake had the smallest bolls, 105 to the pound, which, owing to their small size, were hard to pick.

### COMPARATIVE VALUE PER ACRE OF VARIETIES BASED ON YIELD OF LINT AND LENGTH OF LINT

Cotton is generally bought on the typical local market in Texas on the basis of the average type produced by the community, which means that if the bulk of the cotton is short or poor grade, or both, the average for the community will be relatively low and prices on the market will, therefore, be depressed accordingly. Under such a system of "hoground" buying, quality cotton, particularly of the longer lengths, does not bring the price merited, while short cotton, much of which is untenderable on the future contracts, brings more than it is really worth.\* Farmers may secure a premium, however, for producing a

\*Bulletin No. 383, Texas Agricultural Experiment Station.



better quality of cotton by selling in quantity lots of even-running grade and staple, either through their broker on the central markets or through co-operative marketing agencies, in which case cotton having a definite length is assembled in pools and tendered to the mills in quantity lots of 100 bales or more.

A survey made recently by the Bureau of Agricultural Economics of the United States Department of Agriculture,\*\* showed that of all lengths of cotton consumed by the American mills the strongest demand is for cotton  $\frac{7}{8}$  to  $1\frac{1}{16}$  inches, middling to strict middling. Below  $\frac{7}{8}$  inch in length, the consumption falls off rapidly, amounting to 1.44 per cent of the total consumption. The production of  $\frac{7}{8}$ - and  $15/16$ -inch cotton, however, was considerably in excess of consumption.

The minimum length of lint tenderable on future contract is  $\frac{7}{8}$  inch, while lint longer than this generally commands a premium when sold on the central markets. The ordinary local markets do not afford a dependable index for comparison of varieties as to their value based upon yield, grade, and length of staple, since there is generally no premium paid for better-staple cotton.

The better varieties of cotton which have been tested at Substation No. 5, Temple, for three years or more during the six years, 1922 to 1927, inclusive, are compared in Table 30, taking into consideration yield and length of lint. These varieties have been compared on the basis of middling grade. In determining the comparative values shown in Table 30, the monthly average price or premium paid for staple cotton, middling basis, on the New Orleans market, during December of each year have been used. The price data used in arriving at these values were furnished by the Bureau of Agricultural Economics, Washington, D. C.

The premium paid for staple cotton during the six years, 1922, 1923, 1924, 1925, 1926, and 1927, has been fairly constant for lint measuring  $15/16$  to 1 inch, and has ranged from \$2.50 to \$5.00 a bale. There has been considerable variation, however, in the premium paid for lint of the longer lengths,  $1\frac{1}{16}$  to  $1\frac{1}{4}$ -inch staple, particularly in the case of the latter. In December of 1923,  $1\frac{1}{16}$ -inch staple sold for a premium of \$5.00 a bale, based on middling grade, on the New Orleans market, while in 1925 the premium paid for such cotton was \$12.50 a bale. The premium paid for  $1\frac{1}{4}$ -inch staple, middling basis, on the same market during the six-year period, 1922 to 1927, inclusive, varied from \$20.00 a bale in 1923 to \$40.00 a bale in 1922. The latter premium, however, is considerably above the average for the period, which was \$28.00.

Table 30 shows the comparative value per acre of the lint cotton produced by the 16 better varieties tested at Temple during the six-year period, 1922 to 1927, inclusive. Several averages were necessary to compare all varieties tested for three or more years.

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\*\*Grade and Staple Report of February 15, 1929, issued by Bureau of Agricultural Economics, U. S. Department of Agriculture.

Table 30.—Comparative value of lint per acre.

Variety	Source of seed	1922	1923	1924	1925	1926	1927	Average for		
		25.48*	34.88*	23.66*	19.27*	12.22*	19.28*	6 years, 1922-27	4 years, 1924-27	3 years 1925-27
Acala.....	John D. Rogers, Allenfarm, Texas.....	\$63.29	\$141.01	\$83.95	\$22.64	\$63.19	\$38.99	\$68.84	\$52.19	\$41.60
Anton.....	F. Alves & J. W. Karbach, Lockhart, Texas.....				25.34	58.17	39.14			40.88
Belton.....	Texas Experiment Station, Temple, Texas.....	58.75	218.65	71.02	19.26	51.13	36.50	75.88	44.47	35.63
Bennett's Lone Star.....	R. L. Bennett & Sons, Dallas, Texas.....	77.71	151.43				33.26			
Cliett Superior.....	San Marcos Valley Seed Farms, San Marcos, Texas.....		211.33		29.59	45.61	38.33			37.84
Harper.....	Robert M. Harper, Martindale, Texas.....				2.95	61.82	38.94			42.23
Kasch.....	Ed Kasch, San Marcos, Texas.....	94.28		90.50	27.04	67.69	41.37		56.65	45.36
Lone Star.....	D. A. Saunders, Greenville, Texas.....	78.91	179.76	92.67	22.86	57.24	33.66	77.51	51.60	37.92
Lankart.....	Lankart-Bred Seed Farms, Waco, Texas.....			85.82	24.67	60.29	32.21		50.74	39.05
Mebane.....	A. D. Mebane, Lockhart, Texas.....	84.18	189.09	82.61	26.59	59.62	34.88	79.49	50.92	40.36
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....		244.16	100.02	24.12	61.69	41.17		56.75	42.32
Qualla.....	H. Conrads, San Marcos, Texas.....				26.55	68.61	36.50			43.88
Rowden.....	Rowden Bros., Wills Point, Texas.....	60.64	144.70	66.83	17.54	48.25	30.62	61.43	40.81	32.13
Snowflake.....	John C. McLernon, Clarksville, Texas.....	53.66		78.44	18.38	53.14				
Sunshine.....	J. W. Davidson & Co., McKinney, Texas.....			83.84	18.58	62.20	37.32		50.48	39.36
Truitt.....	Truitt Seed Co., Ennis, Texas.....	68.05	203.80	81.13	20.07	58.53	39.14	78.45	49.71	39.24

\*Cents per pound for cotton of middling grade and 7/8-inch staple.

Mebane had the highest acre value based on yield and length of lint for the six years, 1922 to 1927, which was \$79.49 as compared with \$78.45 for Truitt, \$77.51 for Lone Star, and \$75.88 for Belton.

New Boykin and Kasch were the most profitable varieties grown during the four years, 1924 to 1927, both having practically the same money value per acre. They were followed by Acala, Lone Star, Mebane, and Lankart, in the order named.

For the three years, 1925 to 1927, during which time several new varieties were tested, Kasch was the most profitable, having an acre value of \$45.36 as against \$43.88 for Qualla, \$42.32 for New Boykin, \$42.23 for Harper, and \$41.60 for Acala.

These results in general show that those varieties which had lint  $\frac{3}{8}$  to 1 inch in length made the largest yields and had the highest acre values and were, therefore, the more profitable ones for the Blackland region of Central Texas.

### ACKNOWLEDGMENTS

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### SUMMARY

Varieties of cotton having high percentages of lint and producing a staple of  $\frac{3}{8}$  to 1 inch in length made the highest yields of lint per acre and were generally the more profitable ones tested at Temple in the Blackland region of Central Texas during the 16 years, 1912 to 1927. Statistics show that cotton of the above lengths is in greatest demand by the American mills.

Kasch made the highest yield of lint during this period. Qualla ranked second, and New Boykin third, although the difference in yield of these varieties is probably not significant. These three varieties were followed in yield by Harper, Anton, Sunshine, Lankart, Lone Star, Mebane, Truitt, and Cliett Superior in the order named.

Snowflake produced the longest lint, which averaged 1  $\frac{9}{32}$  inches. It was followed by Durango, Acala, and Lone Star, which had lint of  $1\frac{1}{8}$ , 1  $\frac{1}{16}$ , and 1 inch, respectively. Lone Star was the only one of these four varieties that was rated as a high yielder.

The varieties that had high percentages of lint ranging from 36 to 40 per cent were generally the highest yielders of lint. Qualla, Lankart, Cliett Superior, Kasch, Harper, and Mebane had percentages of lint ranging from 39 to 40 per cent; while Lone Star, Anton, New Boykin, and Truitt had percentages of lint ranging from 36 to 38 per cent.

Lankart produced the largest bolls, 68 being required to weigh one pound of seed cotton. The bolls of Belton, Kasch, Mebane, Cliett Supe-

rior, Qualla, and Harper were also relatively large, requiring 73 to 78 to the pound. The bolls of these varieties were storm-resistant, yet easy to pick.

The higher-yielding varieties were all relatively early-maturing and produced over two-thirds of their total crop at the first picking, which was made during the early part of September each year.

A study was made of the money value of the higher-yielding varieties tested since 1922, based on yield of lint and length of lint. The average prices paid on the New Orleans market during December of each year were used in determining the total acre value of these varieties. New Boykin and Kasch had an acre value of \$56.75 and \$56.65, respectively, for the four years, 1924 to 1927, inclusive. Acala had an acre value of \$52.19 for the same period, Lone Star \$51.60, Mebane \$50.92, Lankart \$50.74, and Sunshine \$50.48. Kasch was the most profitable variety grown during the three years, 1925 to 1927. During this period a number of new varieties were tested, which were compared to Kasch. Kasch had an acre value for this period of \$45.36 as compared to \$43.88 for Qualla, \$42.32 for New Boykin, \$42.23 for Harper, and \$41.60 for Acala. The results in general show that those varieties which made the highest yields had a staple of  $\frac{7}{8}$  to 1 inch and were the most profitable.

These results are probably applicable to the greater part of the Blackland prairie region of Texas.





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Table 31.—Varieties of cotton tested at Temple from 1912 to 1927, inclusive, with yield of lint cotton in pounds per acre—Continued.

Variety	Source	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
Haaga's Extra Long Staple...	Oscar Haaga, Memphis, Tennessee...		203														
Haaga's Long Staple...	Oscar Haaga, Memphis, Tennessee...		227	179													
Haaga's No. 2...	Oscar Haaga, Memphis, Tennessee...			159													
Haaga's No. 3...	Oscar Haaga, Memphis, Tennessee...			222													
Half and Half...	Oscar Haaga, Memphis, Tennessee...		312	241													
Half and Half...	N. L. Willet, Seed Co., Augusta, Ga.						219	119	78								
Hallmark...	Pittman Harrison, Sherman, Texas											217					
Hallmark...	H. S. McCain, Gainesville, Texas												370				
Harper...	Robert M. Harper, Martindale, Texas														128	486	192
Hartsville...	U. S. D. A. Congressional Seed, Washington, D. C.	187															
Hartsville No. 9...	J. L. Coker, Hartsville, S. C.	227	264	191	160	206											
Harvell...	Mr. Harvell, Temple, Texas		365														
Harvell...	Chas. Eden, Bryan, Texas						256		344								
Hasting's Upright...	Mr. Trueheart, Holland, Texas			247	195												
Hasting's Upright...	H. G. Hastings, Atlanta, Ga.					241		74									
Hawkin's...	N. L. Willet Seed Co., Augusta, Ga.		278	247													
Hawkin's...	Chris Reuter, New Orleans, La.					286	172										
Hendricks 78...	A. F. Hendricks, Blair, Okla.	203	334														
Hendricks 126...	A. F. Hendricks, Blair, Okla.	244															
Hendricks 495...	A. F. Hendricks, Blair, Okla.			223													
Hite's Early Prolific...	W. T. Hite, Augusta, Ga.		220	241													
Hite's Prolific...	N. L. Willet Seed Co., Augusta, Ga.						181	123									
Hoijo...	Mappo Model Station, Mappo, Japan		129														
Holdon...	W. M. Parks, Clarksville, Texas						160	114									
Holdon...	H. Stubbelfield, Belton, Texas								346								
Huffman...	G. S. Huffman, Longview, Texas		355	303	250												
Ideal...	W. A. Simpkins, Raleigh, North Carolina					297											
Ideal...	Wake County Cotton Seed Co., Raleigh, North Carolina							102									
Improved Champion...	W. N. Bodeman, Lockhart, Texas						226	141									
Improved Webber...	N. L. Willet Seed Co., Augusta, Ga.			95													
Jackson...	James Jackson, Pottsboro, Texas	259	406														
Jackson...	Texas Seed and Floral Co., Dallas, Texas						195		294								
Kasch...	Ed Kasch, San Marcos, Texas						254	125	326	559	194	370		367	148	512	204
Kasch...	Atwood Seed Farm, Ennis, Texas																180
Keenan...	Eugene Fant, Seneca, South Carolina	215															
Keenan-Goodson...	Pedigreed Seed Farm, Hartsville, South Carolina				166	171											
Kekchi...	W. M. Parks, Clarksville, Texas								133								
King...	N. L. Willet Seed Co., Augusta, Ga.			197													
King 580...	Texas Seed and Floral Co., Dallas, Texas							85									
King's Extra Early...	Texas Seed and Floral Co., Dallas, Texas						159										
King X Triumph...	Alabama Experiment Station, Auburn, Ala.			249													
King X Triumph...	Alabama Experiment Station, Auburn, Ala.							93									
Lankart (Star)...	Lankart-Bred Seed Farms, Waco, Texas													348	128	474	155

## VARIETIES OF COTTON FOR THE BLACKLANDS OF CENTRAL TEXAS

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VARIETIES OF COTTON FOR THE BLACKLANDS OF CENTRAL TEXAS